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EDITED BY

J. RIDDLE GOFFE, PH.M., M.D.

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ORIGINAL ARTICLES.

THE PRINCIPLES OF THE TREATMENT OF FRACTURES BY SYSTEMATIC MOVEMENTS AND MASSAGE WITHOUT APPARATUS FOR IMMOBILIZATION.[1]

BY DR. LUCAS-CHAMPIONNIERE,

OF PARIS, FRANCE;

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AS FAR back as the history of surgery is sufficiently detailed to give us any reliable information in the matter, we find that the treatment of fractures has always been regulated by the principle that immobilization of the fractured portions of bone should be promptly adopted and continued until repair was complete. In our own century this practise has been brought to perfection at least in the eyes of its advocates, and by the introduction of immovable apparatus.

The necessity for the immobilization of fractured bones has ruled surgery as a dogma admitting no doubt. The more perfect the immobilization the more rapid and more certain was the repair of the fracture considered, and the better was the surgeon's work performed. In principle and in practise, however, this system of immobilization is false and hurtful. Organs of movement were made to be moved; their health and their regular nutrition demand movement. The absolute suppression of it such as is attempted in complete immobilization lowers the health of these organs and interferes seriously with the processes of repair.

It is now a long while since I first took up seriously the study of a number of facts which indicated that the rapid and perfect repair of certain types of fractures could be best accomplished without immobilization of any kind. My first observation on this subject was made in 1867. Since then I have published a series of papers[2] and have read a number of articles before various medical congresses and societies on the treatment of articular fractures; that is, fractures into joints by immediate passive movements instituted at the very beginning of the treatment.

In 1894 I formulated and began to teach a complete method of massage and systematic passive movements in the treatment of recent fractures. I published a first memoir in June, 1886, laying down the principles and expounding the practise of a method which was the result of a large number of personal observations in the matter. In 1895 I published a volume of considerable size on the treatment of fractures by massage and passive movements. This work contained a number of photographs in order to facilitate the study of the practical problems involved in the new method of treatment.

As my experience has grown wider I have seen better and better results from the treatment. In my service at present in the Hotel Dieu, as well as in the Hospital Beaujon, there are always a large number of fractures under treatment, and this method is always employed with results that leave nothing to be desired. Large numbers of practitioners in France and in foreign countries have accepted the new method favorably, although, of course, as might be expected, the great majority of surgeons have strenuously opposed it, as it was completely contradictory to the hitherto formulated principles of treatment of fractures. One of the surgeons who has best grasped the extreme importance of this method is Dr. Caldwell, an American, who has recently published a paper embodying certain practical points which he gathered in my service here in Paris.

It would be hard to exaggerate the importance of this revolution in the art of treating fractures, as it involves at least one-fifth of all the cases of fracture which, in the ordinary course of his practise, come to the surgeon for treatment.

Moderate movement favors the repair of fragments of a bone. Where movement is permitted the callus will be greater in quantity, will be more solid, and will be more rapidly thrown out. Any large amount of movement would inhibit the process of repair, or at least seriously interfere with it. Moderate movement preserves the vitality of the limb and preserves the suppleness of the articulations, the muscles, and the tendons. It entirely prevents the occurrence of any muscular atrophy. In every case, therefore, in which moderate movement does not threaten to cause the occurrence of deformity the limb should not be immobilized. On the contrary, an attempt should be made to keep up passively if not actively the movements that are necessary to the vitality of the parts.

In addition to this passive movement, massage, which especially favors the repair of traumatic lesions of muscles, tendons, ligaments, and articulations, may always be applied in practise on the single condition that the parts involved in the fracture do not thus become the subject of untimely interference with repair. We may apply massage to fractures immediately after an accident on condition that this massage be of the special kind that can be performed while the fractured member is properly supported. Massage, if undertaken in the ordinary manner, or if administered too energetically, would certainly result

[1] Translated.

[2] Société de Chirurgie, 1879-1880.

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lamentably. The massage for a fracture ought to be applied to all parts of the limb, along the muscles, over the ligaments, and upon the hemorrhagic effusions, but never just over the site of the fracture nor directly upon the fractured ends of the bones. The massage ought to consist of gentle, repeated pressure always in the same direction from the periphery of the limb toward the trunk. It should be sufficiently prolonged. The length of the time spent at massage will depend somewhat upon the character of the lesion and the sensitiveness of the patient, but at least a quarter of an hour to twenty minutes once a day should be devoted to it.

The massage should never give pain. It should always be followed by an attempt at passive movements of the joints of the limb, which procedure must also be accomplished without pain.

The first effect of massage should always be to cause anesthesia of the part, so that all pain that has existed previously should disappear after its employment. The massage causes rapid resorption of all exudations and especially of hemorrhagic effusions. It preserves the suppleness of the part and prevents muscular atrophy. It exercises without doubt a most favorable and deep-seated action upon the nutrition of the limb, preserves its vitality, and keeps its functions in readiness for service instead of permitting them to degenerate by disuse.

When a member has been massaged and passive movement has been practised for the treatment of a fracture, the repair of the break is much more rapid than if apparatus for absolute immobilization were used. The deformity is much less marked because from the very beginning the muscular contraction, which is so powerful an agent in the production of these deformities, has been made to disappear. Finally, the member which has always remained supple, which has suffered no interference with its articulations, and no atrophy of its muscles, is not only more quickly, but completely cured, by the treatment. On the other hand, after the application of apparatus, especially of irremovable apparatus, a long period must elapse in order to complete the cure, and a second treatment by passive movement must be undertaken to overcome the consolidating action which the apparatus has produced.

These principles of treatment should be applied to all fractures. There is only one contraindication. If deformity threatens to result, that and that only should prevent the surgeon from using this method or hamper him in its application. We can treat absolutely without any apparatus by massage and mobilization alone the large majority of the fractures of the wrists, of the radius, and Colles' fractures. The larger number of fractures of the clavicle are amenable to the same method. In four years at the Hospital Beaujon I have had in my service more than sixty cases of fractures of the clavicle. I have treated all of them without apparatus, using only a simple sling, and not once having had occasion to apply any other form of treatment. All the fractures of the upper extremity of the humerus as far down as the insertion of the deltoid may be treated in this same way. All the fractures of the lower extremity of the humerus, all the fractures of the elbow, including those of the olecranon, most of the fractures of the fibula, a large number of the fractures of both malleoli, many of the fractures of the knee, and all of the fractures of the scapula are best treated in this way.

Besides these many of the fractures which cannot be treated with absolutely no immobilization yield better results when treated by a mixed method. The apparatus should be used after a preliminary massage and removed from time to time in order to permit of further massage. Even in fractures of the femur and of the humerus one can apply this mixed method in a large number of cases. By this means we can lessen and in a large measure do away with the inconveniences connected with the use of fixed apparatus, some form of which may be indispensable. In a number of cases I have even practised massage in compound fractures as soon as cicatrization of the wound was complete.

The secondary treatment of members in which luxations have taken place should also consist of massage and passive movements, which have not only proved to be of invaluable service in such cases, but have never in my experience exposed the patient in the slightest degree to the danger of a recurrence of the dislocation.

A few statistics will give an idea of the importance of this method of treatment in my service. I must state, however, that during ten years at the Tenon Hospital and at the Hospital St. Louis I had the massage in these cases done by my pupils under my personal direction, but since 1894 I have had so many cases of this kind to treat and the work has become so important a feature of my hospital service that I have placed it entirely under the charge of a special assistant, Dr. Dagron, and have committed entirely to his care the training of a number of students as trained assistants for this work. This number has especially included not a few women in order to be able to provide properly for all the necessities for massage in a large hospital.

In the last four years, 78 male and female nurses have taken these courses and have been employed in the service, becoming expert general masseurs and masseuses, as well as acquiring practical experience in massage for fractures. About 1200 patients in all have been under treatment. In 598 of these patients the lesions treated were really serious, and the observations made on them have been collated with a good deal of care. Of the 598 patients, 370 suffered from fractures distributed as shown by the following table:

Fractures of the clavicle, 60; fractures of the humerus, 45; fractures of the radius, 110; fractures of the forearm, 17; fractures of the olecranon, 13; fractures of the scapula, 3; fractures of the femur, 5; fractures of the tibia, 29; fractures just above the malleoli, 7; fractures of the fibula, 50; fractures of both malleoli, 31.

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The dislocations treated by immediate massage have reached the number of 78; the sprains treated by this method were 69.

Among the fractures enumerated a certain number of those in the middle portion of the leg and those of the femur have been treated by the application of apparatus for immobilization during the intervals as well as by massage; but the immense majority of them have been treated either absolutely without apparatus or by very simple methods of fixation, and with a total exclusion of every sort of irremovable apparatus.

We have, therefore, in this method of treating fractures by massage and systematic passive movements without apparatus, a mode of treatment completely formulated, thoroughly established in practise, and very general in its application. I have applied it in recent years in my large service at the Hotel Dieu just as I have done for so many years at the Hospital Beaujon and with just as satisfactory results.

This method undoubtedly gives more rapid and satisfactory results than any other method of treating fractures that have been employed up to the present day. It requires, however, much more attention and much more personal care on the part of the surgeon than the use of apparatus which after careful application may be left undisturbed for days or even weeks. This method requires daily inspection and the application of treatment by some one ready and able to give the condition careful attention.

The massage for these cases, applied according to the principles which experience has taught me to be of special value, presents no serious difficulty; but it must not be confounded with the more or less rough practises which are ordinarily designated by the name massage. *The complete suppression of all pain during the primary and secondary treatment of fractures is the capital point in the matter.* It is this that shows that it is being properly and efficaciously applied.

SOME OF THE CAUSES OF FAILURE TO RELIEVE ASTHENOPIA AND ALLIED SYMPTOMS.[1]

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IT is by no means a rare thing for the ophthalmologist to meet with people who express the greatest disappointment, surprise, and sense of injury that a train of symptoms of years' duration, due, perhaps, to many complications, should not be relieved by the first glasses ordered.

Fifty years ago and less the matter of getting a pair of glasses was a much simpler affair than it is to-day, because at that period only the simpler errors were corrected. The subjects of asthenopia were advised long periods of rest, to adopt occupations not calling for close eye work, or were sent to the farm; while many, doubtless, became chronic neurasthenics.

To-day the causes of asthenopia are better understood, although in many directions our knowledge is very incomplete. Nevertheless, the recognition of the true nature of hypermetropia, the demonstration of astigmatism as a common error of refraction, and the establishment of the importance of latent deviations of the visual axes have greatly complicated the problem of fitting glasses, as well as widened the field of usefulness of the ophthalmologist.

If more people wear glasses than formerly, it is because the symptoms recognized to be due to eye-strain have greatly increased in number, and because of the demonstration of the importance of small errors, formerly neglected. With the increase in the complexity of the ocular problems presented for solution and in the number of those seeking relief from symptoms, there are necessarily more primary failures to relieve than was formerly the case.

Patients seek the advice of one oculist and if he fails to relieve them speedily, too often go to another. The second has to do the same work all over again, and, although he has the advantage of seeing the effect of the glasses prescribed by the first, is, perhaps, but little more successful.

The cases in which failure to relieve asthenopia occurs admit of fairly satisfactory classification on a clinical basis. They may be divided in the first place into two main classes; one consisting of *curable* cases, the other of *incurable* cases.

The curable cases may be divided into three groups. (1) In which the failure is the fault of the *patient.* (2) In which it may be said to be the fault of the *oculist.* (3) In which it may be said to be the fault of the *case,* or more specifically, due to the extreme latency of some of the errors of refraction and equilibrium.

The incurable cases may be placed under two headings. (1) Congenital asthenopes, people whose eyes are incapable of a normal amount of work, independently of their refraction and muscular condition, and of the general health. (2) Cases in which the symptoms are due to organic disease of the eye or brain, or to some general disease.

First, these incurable cases. There seem to be people who are born with eyes essentially weak; eyes in which no appreciable error of refraction or muscular equilibrium can be detected and in which nothing pathological can be discovered either by external or ophthalmoscopic examination, or eyes in which the apparently perfect correction of such errors as exist does not result in the desired relief; the general health of the patient being good. Such patients travel about from one oculist to another, seeking relief and finding none. The only credit which can be derived from the contact with these cases results from a realization and a frank statement of the situation, which, nevertheless, often requires a lapse of time and repeated examination for its appreciation. Cases

[1] Read by invitation before the Madison County, N. Y., Medical Society.

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in which asthenopia is only partially relievable are quite common and require that the patient should adjust his activities and mode of life to the capacity of the eyes to work. The following is a good examples of this type:

March 27, 1897.—Mr. M., aged thirty-five, theological student, has been an athlete and an athletic trainer, in perfect general health. He complains that he can hardly read at all; that the muscles of his eyes ache; that his stomach troubles him if he does too much eye work. He had already consulted an oculist in some other city, who after using a mydriatic had given him weak convex spherical glasses. Examination showed his vision to be above the normal standard in each eye; that there was a low degree of hypermetropia, which was accurately corrected by the glasses already prescribed; that the muscular equilibrium was normal. Testing the power of adduction and abduction showed the latter to be relatively fuller than the former, and this afforded the only therapeutic indication in the case. He was prescribed prismatic exercise. Five days later when he came back the adduction was of normal measurement, but his condition was worse. He could not read as long. I saw him again about a month later. In the interval he had seen a well-known New York ophthalmologist who, recognizing the same relative weakness of the adduction, had given him prisms to wear during reading, but without benefit. Examination showed no change in any particular. I told the patient, therefore, that he must adjust himself to the situation; that lapse of time and prolonged rest would do for him all that could be done, at any rate, for the present.

I will not do more than refer to the groups of cases in which asthenopic symptoms are due to organic diseases of the eye, brain, or disturbance of general health. The true nature of such cases sooner or later becomes apparent.

We now come to the class of curable cases in which failure to relieve symptoms occurs for one of the reasons already given. In the first place, it may be the fault of the patient. There are many ways in which patients fail to carry out the directions given to them. Three errors stand out a little more prominently than the rest.

They neglect to wear their glasses constantly. This is a very common cause of failure. Patients also who have been already prescribed for with sufficient accuracy for reading, not infrequently seek advice because they still have symptoms referable to eye-strain, and in many of these cases all that is necessary is to advise the constant wearing of glasses already prescribed. Failure from this cause is sometimes the fault of the advisor as well as of the patient. The wearing of glasses to correct any, even the smallest error of refraction, changes entirely the previous working methods of the eyes, their accommodation, the relation of accommodation to conveyance, the relative tension of the extrinsic muscles, distribution of innervation, etc., and it cannot be regarded as surprising that some discomforts should occur at first. There is, indeed, a period of adaptation during which the new method of working is established. If the glasses are removed and the eyes are used without them they resume their old habits, which again are disturbed when the glasses are replaced. In some cases, indeed, there is not only a failure to relieve but even an aggravation of the symptoms from irregularity in the use of glasses. Such cases require no further comment.

There are other cases in which the patient wears his glasses constantly, but the period of adaptation is so prolonged and the discomforts attending the commencement of wearing glasses are so persistent that he not unnaturally comes to the conclusion that they must be incorrect. This is, of course, sometimes the true explanation of discomfort. There are, however, many cases in which perfectly corrected glasses give rise to prolonged annoyance and yet are finally worn with perfect comfort and ease. The following is a case in point.

Miss A. B., aged thirty, came for advice on March 31, 1891. Her eyes had troubled her since the age of two years when she suffered from sore lids; eyes always weak; as a girl was more out of school than in, on this account. For the past two years has suffered much from headache which has been a great deal worse lately. Has worn glasses eleven years. Until three years ago had worn smoked glasses, the chief trouble being photophobia, frequent inflammation of eyes and lids, and nausea. Since then she has worn a weak astigmatic glass 0.50c. 90° in each eye. Examination R. 6/9+0.75s.+0.75c. improves. L. 6/6 Hm. 1.D. After atropin she accepted R. +2D¹s.+1c. ax. 80°=6/6. L.+2.25Ds.+D.25c. ax. 150°=6/6, and was prescribed R.+1.75.+1c. 80°. L.+2D.s+0.25c. 150° for constant wear.

April 22.—She came back complaining of more headache, stating that sewing produced almost immediate pain in the eyes and lacrimation. Examination gave essentially the same result. Continued use of the glasses was insisted on. She left my office much discouraged, and I saw her no more until I accidentally met her in the summer of 1896. She then informed me that she gradually became comfortable with the glasses, which had entirely relieved her symptoms, and that she was wearing the same still.

This case is also an example of failure due to the omission to use a mydriatic; thus leaving the latent error unrecognized and uncorrected, to which reference will be made later.

Occasionally too much near work is attempted by those who, after suffering from asthenopia for years, have just had their refractive and other errors corrected. In many cases the resumption of work should be quite gradual.

Failure may be the fault of the oculist. I do not refer to the grosser errors which should be avoided by any well-trained and careful man, but to certain matters about which there still remains some difference of opinion in the profession. For

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instance, he may neglect to correct low degrees of astigmatism, or, what amounts to the same thing, may fail to correct astigmatism with sufficient accuracy. Personally, I regard it as thoroughly established that low degrees of refractive error, especially astigmatism, are very effective in certain kinds of people in producing asthenopic disturbances.

In one of the well-known text-books we find the statement that "it is not usually necessary to correct astigmatism of less than one diopter." There are, doubtless, many persons in whom this amount of error seems to produce no discomfort, but in those who complain of asthenopic symptoms it is certainly a mistake to omit the correction of any plainly demonstrable astigmatism down to 0.25D, and it must be remembered that only those who have symptoms go to a physician.

A case I had some years ago impressed this fact very strongly upon my mind because the patient had during the ten years previous to consulting me been under the care of some of the most competent ophthalmologists in the country who had uniformly failed to benefit her. I ought to state that at that time the efficacy of low degrees of astigmatism to cause trouble was by no means so well appreciated as it is now.

March, 1889.—Mrs. J. P. D., aged fifty years; ten years ago began to suffer pain over the eyes and through the head after the use of the eyes. Suffers much from nervousness and insomnia. Cannot even look at distant objects without trouble. Headache twice a week. Sometimes has to go to bed on account of it. Examination showed one-quarter of a diopter of astigmatism in each eye; nothing else. I prescribed glasses correcting it for distance, and introduced the same correction for astigmatism into her reading glasses. The result was a practical cure. Three and a half years later she was able to use her eyes for two or three hours at a time for near work and headache occurred seldom.

The oculist may err in failing to correct the latent hypermetropia or in over-correcting myopia. These errors have been common in the past and are liable to continue to be so, for on the whole, there seems to be a tendency to attempt to dispense with a mydriatic, which at present is the most reliable means of demonstrating latent errors, on account of the annoyance to the patient, and of the difficulty which is occasionally experienced in getting used to glasses prescribed, perhaps injudiciously, after such preparation. While it is perfectly true that the attempt to wear a full correction of the refractive errors is often accompanied by annoying and discouraging symptoms, these symptoms are usually quite short in duration. It is equally true that the symptoms from which the patient seeks relief cannot be permanently removed without a correction of the latent as well as the manifest error.

The second case reported was a very good example of this fact. I am convinced that she could not have been relieved had the latent hypermetropia been left uncorrected. I do not mean to contend that a full correction of the latent error should be made in *every* case where we prescribe glasses. There are many cases in which symptoms are slight, and especially where patients will not wear their glasses constantly, in which a partial correction, at any rate, for a time, better meets the indications of the case. A perhaps more excusable cause of failure is the neglect to take into consideration the influence of latent strabismus. In many cases of asthenopia we find in addition to errors of refraction a tendency for the visual lines to converge, diverge, or deviate one above the other. Sometimes, some say as a general rule, the deviating tendencies are secondary to the refractive errors and disappear when the latter are corrected. But there are many cases in which the correction of these errors, however accurate, not only fails to relieve the symptoms but even aggravates them. It is easy to see how this may be the case. With the refraction corrected the retinal images are in greater or less degree indistinct, so that a more or less imperfect super-position of them is easily tolerated. But when the refraction is made accurate, clearly defined images are formed on the retinæ and an exact and constant correspondence of them is necessary or diplopia results. This increases the work, already excessive, of some of the muscles, and discomfort expressed in one way or another results.

I am referring now only to cases in which a sufficient latent deviation is detected before the first glasses are prescribed.

A case in point is that of Miss M. V., aged nineteen years, first seen May 18, 1891, who complained of pain on use of her eyes. Headache daily. She disclosed, on examination, before and after use of mydriatic, a moderate amount of Hy. with astigmatism and 12° of esophoria or more. As it seemed probable that the convergence was secondary in part, if not altogether, to the Hy. astigmatism, she was ordered simply the glasses for refractive error. They aggravated the symptoms. On June 15th she came with smoked glasses, having severe photophobia, entirely unable to read, etc. She showed a convergence of 21°. She was at once given prisms 3° each, bases out, which gave her immediate relief. To cut a long story short, the error was finally corrected by tenotomies, which gave complete and apparently permanent relief.

I have done little more than refer to the preceding groups of incurable and easily curable cases for various reasons. The latter groups require more persistence on the part of the patient or more careful attention to the demonstrable facts of the case on the part of the ophthalmologist. More than one prescription may be necessary before the glasses which give the greatest degree of relief can be decided upon.

The last group of cases is by far the most important, at the same time one of the most interesting to the physician, and at first most discouraging to the patient. The symptoms present are evidently due to the eye-strain, and yet after care-

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ful and detailed examination of eyes, refraction, muscular equilibrium, etc., either nothing can be found wrong, or, after all errors are accurately corrected and have been shown by repeated examination to be accurately corrected, the symptoms persist or are aggravated by the glasses prescribed. Neither glasses nor mydriatics aid much in the elucidation of these cases; one thing only brings about their final solution, and that is the lapse of time. This shows that they are cases either of latent hypermetropia, latent astigmatism, or latent heterophoria. The significance of this is very great. It amounts to saying that while it may be possible to determine positively the existence of certain errors at the first examination, we are not justified even when the first tests are absolutely negative in saying that no error exists or that no error in addition to what we have discovered exists. We can never say "this patient's eyes are perfectly free from refractive or muscular error," until the lapse of a considerable period of time, and repeated examinations have taken place. In fact there is good reason to think that old age is reached before the complete manifestation of these errors in some people.

It is a common idea that atropin and other mydriatics produce a complete paralysis of the ciliary muscle, and thus reveal all the latent refractive error. There are many exceptions. Atropin of the strength of 4 grains to the ounce used three times a day for several days at a time may yet leave hypermetropia unrevealed, as the future history of the case may show.

Thus: H. S., aged eleven years, in February, 1894, accepted for each eye +0.25s.+0.25c. R. axis 105°. L. axis 75°. After atropin had been used for three days testing gave R.+1s.+0.25c. ax. 100°. L. 1.25s. 0.25c.ax. 80°.

In April, 1896, after using atropin for five days R. accepted +1.25s.+0.37c. ax. 105°. L.+1.5s. and c.+0.25c. ax. 75°.

In December of the same year, after using atropin five days, R. accepted +1.75s. and c. L.+2s. and c.

Five days more of atropin did not change the result. Thus, in 1896 nearly twice as much Hy. could be demonstrated as was shown after atropin two and one-half years earlier.

What is true of latent hypermetropia is also true of some cases of astigmatism. Although less common, latent astigmatism is nevertheless a reality, and occasionally in spite of the use of the usual mydriatic years have to elapse before the manifestation of the total astigmatism takes place. Until this occurs the relief afforded is incomplete or transient, or both. I have seen many instances of this condition, and report the following as a striking instance:

W. B. D., aged sixteen years, first seen on October 9, 1890. Symptoms: rapid tiring of eyes in reading. Examination showed astigmatism, +0.5Dcyl.; axes 90° in each eye. A mydriatic (homatropin) was used, and disclosed in addition to the astigmatism, which remained unchanged, 0.5D of hypermetropia. Tests of the muscular equilibrium showed also a tendency to convergence, corrected by a prism of 5°. He was given a correction for the astigmatism and 1½° prisms for each eye, and remained comfortable until April, 1891, when his asthenopia returned. Examination showed no change in the amount of astigmatism but an increase in convergence, and the prisms were increased to 3° each. This gave him sufficient relief to prevent my seeing him for three years, when he returned with asthenopia after one hour's reading. The ophthalmometer had in the meantime come into general use and it showed in each of his eyes a corneal astigmatism of 2D at 90°. Homatropin was again used and he accepted a +1D cyl. in each eye, or double what he had previously chosen, the hypermetropia remaining the same. Convergence was now 12°. The glasses prescribed upon this basis gave him relief until January, 1895, when the left eye accepted +1.25 cyl. In July, 1895, the right eye took +1.25c. and the left +1.5c., the convergence amounting to 15°.

As the indications were that the latent convergence was causing some of the symptoms, and as it was increasing in degree in spite of the fuller correction of the refractive errors, in the following September I corrected it by partial tenotomies, reducing it from 15° to between 2° and 3°. In November+1.75D. cyl. corrected the astigmatism in each eye most accurately and was prescribed. He got on well until June, 1896, when there was some return of the asthenopia, due to the latent convergence remaining uncorrected; this finally amounted to 9" and was corrected in January, 1897, leaving perfect equilibrium. He now has no trouble at all.

In this case a lapse of five years occurred before the astigmatism became completely manifest. He is now wearing cylindrical glasses just three and one-half times as strong as those originally accepted.

Another group of cases of exceeding interest are those in which there exists a latent deviating tendency of the visual axes at first and often for a long period of time incapable of demonstration.

For instance, a patient complains of rapid tiring of the eyes in near work, or headache, or some such symptom, and we find or satisfy ourselves that there is no error of refraction, or that such errors as exist are accurately corrected; we then investigate as the next most probable source of trouble, the extrinsic muscular system. We annul the binocular function by one of the many methods at our command, and we find the visual axes parallel and, perhaps, also the adduction and abduction and sursumduction within the normal limits. There is no indication whatever of faults of equilibrium.

There is nothing to be done in such cases except to prescribe such glasses as are necessary to correct the errors of refraction, if any, and wait for future developments. In some cases the manifestation of deviation may be aided and hastened by the systematic measuring of the different

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pairs of muscles and prescribing of prisms to relieve those that are relatively weak, but, as a rule, the *lapse of time,* and sometimes a considerable period of it, is the only element which will bring about a final solution of the problem.

I now wish to detail two or three of these cases and I do so without any apology, for they are not only of great importance in themselves, very suggestive in their bearing on cases we see and do not understand, but there is good reason for thinking that the frequency of their occurrence is not widely appreciated.

The first case is that of Mrs. C. E. L., aged thirty-eight years, who was examined first on May 15, 1891. She had always been a great sufferer from sick headache, occurring about twice a week, accompanied by fearful nausea and severe vomiting. Other members of her family were also subject to the same affection. She had no difficulty in using her eyes. Examination showed that there was a moderate degree of astigmatism in the R. eye +0.75D cyl.; axis 75°. L. + 0.25 cyl. 120° and latent divergence 4°. The cylinders were prescribed.

In January, 1892, she reported herself no better. The R. accepted the same, and the L. was very indefinite in the choice of cylinders; therefore, as there remained a low degree of divergence, a prism base in 1″ was substituted for the L. cylinder. March 30, 1893, she was unimproved, having, in fact, sick headache commonly two or three times a week, the longest interval having been five weeks. She now showed divergence 7° and a 3° prism was placed before the L. eye. One week later a deviation of the right eye 1° higher than the left was demonstrated. This was the first time, although she had been under observation already for two years, that any tendency to deviation in the vertical direction could be detected. A prism 1° base down was ordered for R. eye. Three weeks later she returned with the report that she had had much less headache; examination now disclosed R. hyperphoria 2°. On July 18th the error measured 4-5°. She had had one headache only in the preceding three months and less insomnia. In December, 1893, she was prescribed R. + 0.75c. 75° pr. 3½° base down. L. 0.25c. 130° pr. 3° base in.

In September, 1894, she reported an interval of three months without a headache, but within past four weeks three attacks had occurred. The vertical deviation now measured 7° and the lateral 6-7°. As this was too much for convenient correction by prisms, tenotomy was advised but not accepted. In June, 1895, she reported no headache for four months.

In May, 1891, no error could be detected in the vertical plane; three years later the R. eye could be demonstrated to tend upwards to an extent requiring a 7° pr. for the correction (*i. e.,* 3½° actual deviation).

When it is remembered that the ordinary power of independent vertical movement is from 2° to 3°, the magnitude of this error can be better appreciated. The persistent innervation necessary to maintain parallelism of the visual axes resulting on the one hand in a very fixed spasm of the muscles innervated, and on the other hand in a state of neurasthenia, expressing itself by the frequent explosions constituting sick-headache.

The second case, F. T., aged twenty-three years, was first seen in May, 1894. His symptoms were headache with confusion in the head after reading, and some intolerance of light. Examination disclosed some mixed astigmatism in the left eye, the ophthalmometer showing a much higher degree of astigmatism than the glasses he accepted. The muscular equilibrium was normal.

I prescribed for him three times within three months without giving him any relief except for one week after the first prescription. I was entirely unable to demonstrate any fault in the balance of the ocular muscles. After the third prescription he disappeared. He went the rounds of all the oculists in the neighborhood and being apparently unable to get out of the vicious circle he reappeared in my office on September 9, 1897. He reported that he was better without than with the last glasses prescribed by me; that in the interval he had been prescribed an indefinite number of pairs of glasses, etc., without relief. His chief symptom now was intense photophobia. Examination showed a little less astigmatism than at his earlier tests, and also what had never given any indication of its presence before, a latent deviation of the L. higher than the R. of ½°. His refraction was carefully worked out, both without and with a mydriatic, the result being that glasses not very different from those originally prescribed were ordered, with the addition of ½° prism to offset the deviation. Some relief was at once experienced and more deviating tendency soon manifesting itself, was corrected by prisms, until on October 2d he reported himself much more comfortable and able to be out on the shady side of the street without colored glasses, whereas, two weeks before he could scarcely look out of doors with colored glasses.

With a fuller correction he reported on October 13th that he was able to be out in the sunlight for a short time without colored glasses, and had, in fact, worn none for five days. The total deviating tendency now equaled 2° and was fully corrected in the glasses prescribed.

The last case I have to report was even more perplexing and complicated than any of the preceding. It was under observation a little over four years, and during this period of time changes of three different kinds occurred in the eyes.

At the end of this period four times as much astigmatism could be demonstrated as at the beginning. From a moderate degree of hypermetropia the eyes changed to condition of moderate myopia. Whereas in the first place but little latent deviation, and that convergence, was shown, four years later a very considerable upward and inward deviation could be demonstrated.

This patient was fourteen years of age when I first saw him in 1890, and complained of defective vision and aching. He had been prescribed

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+0.25 cyl. by one of the best-known men of Detroit, which relieved him until he went to school. Examination showed that he had a low degree of Hy. astigmatism in each eye, fairly accurately corrected by the glasses already prescribed, and also a convergence of 8°. Prisms 1½° base out gave him more relief than the previous glasses. Five months later (March, 1891) he returned with more asthenopia and more astigmatism could be detected +0.5 cyl. each. No latent convergence was to be found. Indeed, the muscular balance had become perfect.

In September, 1891, symptoms returned, due to apparent increase of astigmatism, which was corrected. In April, 1892, the R. preferred a concave cylinder. In September, 1892, the R. showed less astigmatism than at either of the preceding visits.

Now, for the first time in one and one-half years a low degree of latent convergence could be detected, amounting to 2°. In April, 1893, he came back again with an increase of symptoms. On this date his eyes were examined with the ophthalmometer, which showed corneal astigmatism, R. 1.5D 90°. L. 1.75D 90°. He accepted stronger astigmatic glasses than before, the astigmatism being myopic in the right and mixed in the left eye. Esophoria, 1½-3°. A full correction of his astigmatism was prescribed. It aggravated his symptoms.

In August, 1893, no better; lacrimation, headache. Latent convergence of 4° could be demonstrated, and prisms 1½ each, correcting the greater part of this, relieved his symptoms. No hyperphoria. In January, 1894, return of symptoms, again relieved temporarily by correction of slight change in refraction. On July 17, 1894, tests showed the presence of a tendency of the right eye to deviate upward 1°. R. sursumduction, 2°. L. 1°. Let me emphasize the fact that he had been under observation more than three and one-half years before any hyperphoria could be detected. With the temporary use of a prism the deviation increased to 1½° and prisms correcting that error were introduced into his glasses. The final tests were made in December, 1894, on three or four consecutive days, and resulted in showing myopic astigmatism in both eyes, hyperphoria of 2°, and latent convergence of from 2° to 8°. The glasses ordered on this basis having given him practically complete relief. R.—0.75c. 170° pr. 2° base out-down pr. axis 40°. L.1c. +0.25s. pr. 2° base out-up pr. axis 40.

I have very little to add by way of comment to these cases. It seems to me that the facts they contain fully justify the statement made earlier in the paper that it is impossible at an early stage of investigation to disprove the existence of certain efficient causes of asthenopia and that time alone can be depended upon to solve the problem.

If I have succeeded in showing that, at any rate in some cases, legitimate excuses may be made for the ophthalmologist who fails to relieve asthenopia promptly, the object with which I prepared this paper has been attained.

LATENT INFECTION AND SUBINFECTION AND THE ETIOLOGY OF HEMOCHROMATOSIS AND PERNICIOUS ANEMIA.[1]

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FACTS are not of necessity truths; however sure we may be at a given moment of the facts upon which we base our conclusions and determine our treatment, those facts may not be the whole facts, those truths not the whole truths. Aseptic and antiseptic surgery, and our theories with regard to infection, have for years been based upon a fundamental postulate that the skin and the mucous surfaces of the body form a natural barrier beyond which, under normal conditions, bacteria do not pass; that the presence of bacteria in the deeper tissues is the exception and not the rule. While it would be absurd to deny that this postulate has been the most valuable, for without it modern medicine could not be in its present position, and while admitting that if not true it must be somewhere near the truth (otherwise facts and observations would not conform to it in so great a measure), is it the whole truth, does everything prove that, normally, the tissues are free from bacteria?

Studying more especially the digestive tract, the observations of Schæfer, Zawarykin, Heidenhain, and A. B. Macallum show that constantly, more especially during the digestive act, leucocytes containing various materials pass out into the lumen of the intestine and pass back again into the submucous tissues, into the lymphatics of the villi, and into the portal venules also present there. Among these, as shown very clearly by Ruffer's observations, are bacteria. If the small intestine of the healthy rabbit be taken immediately after death, sections being cut and stained by the ordinary methods, abundant leucocytes containing micro-organisms are found in the lymph-follicles of the Peyer's patches; the same is true also in connection with the tonsil. Bacteria so passing in tend to be destroyed and the lymph-glands in the subepithelial and submucous areas of the respiratory system may be regarded as a second line of defence of the organism against bacterial invasion.

But these facts show that at least one tissue, if not normally sterile, may be regarded as *potentially sterile;* the tendency is for entering bacteria to be rapidly destroyed, but it is possible to realize conditions under which this destruction is not adequate. We can, however, go beyond the submucous glands. Dr. A. G. Nicholls, Senior Demonstrator in Pathology at Magill University, has recently pointed out that if the mesentery and the small intestines of healthy rabbits be properly removed immediately after death and properly stained, the mesentery shows relatively abundant bacteria within it in various stages of disintegration. The same is true not only of the lymph-

[1] Abstract, made by the author, of an address delivered before the Society of Internal Medicine, Chicago, Nov. 29, 1889.

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oid tissue but of the mesenteric glands. My own observations have carried this subject of the existence of bacteria in the healthy tissues a considerable step further. It has been repeatedly demonstrated that within a very few minutes after intravenous inoculation of bacteria (*e. g.*, anthrax and tubercle) these are taken up by the endothelial cells of various organs, more especially the liver. In the studies made by Drs. Adami, Abbott, and Nicholson, they found that taking the colon bacillus and inoculating this intravenously, within a quarter of an hour the endothelial cells of the liver showed abundant contained bacteria, which were undergoing degenerative changes. The long rods tended to break up into short pieces and in several cases all that could be seen of them were small diplococcoid-like bodies still staining strongly but absolutely unlike the original bacillary form which had been inoculated. At a still later period, in from two to four hours, an increased number of minute slightly brownish diplococcoid forms were made out actually within the liver-cells. The same process also occurred in the cells of the convoluted tubules. These bodies vary considerably in their size and are evidently in various stages of destruction and dissolution, and they can only be recognized by the higher powers of the microscope; the ordinary one-twelfth immersion is generally insufficient to demonstrate them properly. It was pointed out that these could only be the remains of the inoculated bacteria.

Long ago Cohnheim suggested that the body protects itself by excreting living germs through the liver and the kidney. The observations of Wyssokowitsch appear to definitely disprove this, and Sherrington came to similar conclusions altogether, although he pointed out that occasionally he found bacteria in the urine and bile without blood being present or any evidence of actual gross lesion in the tissues.

Among those who have confuted Wyssokowitsch's observations, the studies of Dr. Fütterer of Chicago are more especially noteworthy. This observer was able to find the bacillus prodigiosus in the pelvis of the kidney of a dog two minutes after injecting a culture into the jugular vein, and he obtained the same micro-organism and the pyococcus aureus from the common bile-duct within three minutes after he had inoculated them into the blood of the left side of the heart. He therefore concludes that certain bacteria at least are actually excreted as Cohnheim suggested. So also in personal experiments with the colon bacillus the minute and apparently dead diplococcoid forms in the bile have at times been found, but their very appearance indicated that they had been acted on during their transit through the liver. When the number is not too great the liver tissue is capable of wholly destroying and digesting bacteria circulating in the portal blood. Where, however, this function of the liver-cells becomes exhausted by the taking up of excessive numbers of the bacteria, then it is possible for these to be excreted in the bile in a still living state.

These observations appear to demonstrate clearly that while one of the functions of the lymphatic gland is to take up and destroy bacteria gaining an entrance into the lymph, a function of the liver, both as regards its endothelium and its cells, is to take up and destroy such bacteria as are introduced by leucocytes into the venules of the portal system, while similarly a function of the kidney parenchyma, more especially of the convoluted tabules, is to remove bacteria circulating in the systemic circulation.

Not only can these powers be shown experimentally, but in the liver-cells of normal animals, of man and of the rabbit for instance, the brownish diplococcoid bodies which would seem to represent not necessarily only the degenerated colon but it may be other bacterial forms are normally present, while inflammation of the intestines, judging from the great numbers present in sections of the liver after such, would seem to favor the passage of bacteria into the portal blood.

These views, it is true, appear to be diametrically opposed to the very numerous observations that have been made upon the bacteriology of the normal blood and of blood in cases of disease and in the bacteriology of normal tissue. While it was generally held that normal blood is absolutely sterile, the observations of Nocard, confirmed by Porchard and Désoubry show that, more especially after a meal, bacteria are present in the chyle and cultures may be obtained from the normal blood. These observations of Nocard have been given the lie direct by Max Neisser and others. Making cultures from the chyle, the lymphatic glands, etc., this last observer came to the conclution that the chyle is absolutely free from germs, as is also the normal blood. Recently Franklin Warren White of Boston, studying the blood in various diseases, obtained from 92 cases of active disease only 12 cultures from the blood; all of these were staphylococci, streptococci, and pneumococci. Warren White himself has in conformity with other observers shown that the blood-serum even of healthy individuals is not markedly germicidal for pus-organisms. In this lies the explanation of the whole matter. The observers who have most frequently gained positive results are those who have employed broth cultures and have diluted the blood considerably, whereas those who have worked by means of streak and plate cultures of solid media have gained positive results with forms which are relatively resistent to the germicidal action of the blood-serum. These observers have failed to take into account the strong bactericidal action of the shed blood; 1 c.c. of shed blood will kill thousands of anthrax bacilli, for example; a very much smaller number introduced into the total circulating blood of the rabbit will proliferate and cause the death of the animal; the bacterial powers of the circulating blood are relatively slight, whereas those of the shed blood are remarkably powerful. It is in the act of coagulation that the bactericidal substances are for the greater part liberated. There is little wonder, then, that in the observations of White,

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Petruschky, Sittman, Neisser, etc., only those forms and just those forms relatively resistent to the bactericidal action of the blood-serum managed to proliferate and to form colonies. In short, the only method to determine the presence of bacteria in the circulation blood with any accuracy is one which until now has been little employed; it is that of diluting the blood with 100 or 200 parts, or more, of broth whereby the bactericidal substances are so diluted that bacteria may grow.

Similar considerations and similar criticisms may be brought to bear upon the observations which have been made with reference to the existence of bacteria in the normal tissues. Time and again observers like Hauser, Neisser, and others have found that the tissues of healthy animals are so frequently sterile that the occasional gaining of cultures from the organs has been referred by them to contamination in the admittedly difficult task of removal of organs or parts of organs from the body into sterile receptacles. Thus, for example, Neisser out of some 37 rabbits, mice, and guinea-pigs, which he fed with various pathogenic and non-pathogenic organisms, and in certain of which he further set up grave intestinal irritation by giving at the same time croton oil or powdered glass, failed to gain cultures from growths in the liver, spleen, kidneys, lungs, etc., in 24, and only gained cultures, and these in not all the organs, in the remaining 13. His method apparently was the most complete. The animals were skinned, then placed in sublimate solution so as to sterilize the surface, and then fastened out upon sterile boards. The operator, having his hands sterilized, removed each organ in turn with a separate set of sterile instruments, and then placed it in a sterile vessel. Melted gelatin or, rarely, melted agar was then poured over them and only after two days were they examined.

The results seem most positive and what is remarkable is the fact that even when cultures did grow in the organs in general, they were not the identical forms with which the animals had been fed.

Recently, Dr. A. G. Nicholls and Dr. Ford, Fellows in Pathology at McGill University, have been repeating these observations, and it must be confessed that very different results have been obtained, and it has been discovered wherein Neisser was led astray. The animals employed by Dr. Ford have been rabbits, and he has taken precautions similar to those employed by Neisser to guard against contamination. The organ or part has then been dropped into a sterilized bottle containing melted gelatin or melted agar, so that if there were any subsequent contamination by the air it would first of all show itself upon the surface of this solidified medium. Dr. Ford will, of course, publish his whole series of observations later, but he has done sufficient to allow the statement that where organs *immediately after death* are placed in gelatin and kept in the cold, a large proportion remain absolutely sterile and show no growth, whereas when placed in agar and kept at the body temperature, the majority of livers and kidneys show relatively abundant growth after two days or less.

Here again the bactericidal influence of the body tissues come in. It may be that in the organs not immediately removed after death such bacteria as are present undergo attenuation and destruction with fair rapidity, unless, as in cases of disease, they be present in relatively large numbers while at the same time the bactericidal powers of the tissues are depressed. What appears more evident, however, from Dr. Ford's results is that this inhibitory action of the body tissues upon microbes that are accustomed to live at the body temperature is favored by keeping in the cool, or more correctly, that the activity of the growth of the bacteria is depressed.

Before proceeding farther the conclusions which may be legitimately adduced from the facts so far brought forward seem to be the following:

1. Normally there is a passage of leucocytes through the mucosæ on to the free surface of, more especially, the alimentary tract.

2. That these leucocytes while in part undergoing a destruction, in part find their way back between the epithelial cells, bearing with them foodstuffs and solid particles among which may be the bacteria present in the cavity of the gut.

3. That during the active congestion which accompanies digestion the passage out and return of these wandering cells is increased.

4. These cells upon their return find their way either into the lymphatic channels or the venules of the portal system.

5. That in either position they tend to be destroyed and digested by the leucocytes and thus, while preparations of the mesentery and of the mesenteric lymphatic glands may show abundant bacteria, the vast majority of these at the same time show obvious degeneration, while cultures made from the mesentery or from the lymphatic glands on ordinary media by ordinary methods as a consequence tend to remain sterile. Similarly in the normal liver the same rapid destruction takes place so that here again by ordinary methods no evidence of living bacteria is obtainable.

6. By the employment of adequate methods it can be demonstrated that even in the healthy liver and kidney in a large number of cases, in one animal at least (the rabbit), a certain number of living microbes are present at any one moment, so that if the healthy organ be removed from the body cultures of these living microbes can be obtained.

7. It is most probable further that in ordinary health a certain number of bacteria which have not been destroyed by the leucocytes or removed by the lymphatic glands or endothelium of the portal system, pass either through the thoracic duct or through the liver into the systemic blood. Such bacteria tend to be removed more especially by the kidneys, although it may be by other glandular organs. In any case the ordinary methods at present employed in making cultures from blood are inadequate to detect the presence of such bac-

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teria unless they are of such a nature or are circulating in such quantities that the whole number is not destroyed by the bactericidal action of the shed blood.

It follows further from these conclusions that there does exist a condition of what the French term latent microbism, or what should be more correctly termed for practical purposes *latent infection*. We have abundant evidence that even in the healthy feces such forms as the pyococci, streptococci, and the bacillus pyocyaneus, are to be encountered fairly often. We know further that the commonest form inhabiting the intestine, that which outgrows all other forms, namely the colon bacillus, even when obtained from perfectly healthy feces may show marked pathogenic properties when inoculated into the lower animals.

We know further as a common fact in pathology that, just as one swallow does not make a summer, an isolated microbe gaining entrance into the system does not usually set up disease. Save when we are dealing with the most virulent forms of pathogenic micro-organisms and with animals which are peculiarly susceptible, it requires numerous bacteria entering at the same time to so lower the resisting powers of the tissues as to thus survive and proliferate. If therefore in the intestine, here and there at scattered points, individual bacteria are being introduced into the system from time to time, that does not necessitate proliferation and consequent infection. But, on the other hand, we can equally well understand that if from some cause or other, as, for example, by inflammation along the intestinal tract, whereby excessive numbers of bacteria are introduced, or, again, in conditions such as are afforded towards the conclusion of long continued chronic wasting disease, the reactive powers of the tissues are greatly lowered, then everything favors the multiplication of bacteria so introduced and the development of either localized —so-called cryptogenetic infection—or of general septicemic disturbances.

The observations of Flexner ("Exper. Med.," Vol. 1, No. 3, 1896) upon terminal infection show in the most vivid light how common it is to have death preceded by such general or local infection by germs totally foreign to the main morbid condition, and amply confirm Osler's paradox that "persons rarely die of the disease with which they suffer" ("Practice of Medicine," p. 132, 1895).

If we accept the conclusions above mentioned we gain a more correct understanding of "post-mortem infection" of the body. The usual explanation of the abundant growth of bacteria in the various organs after death is that, while there may be an agonal invasion of bacteria, the essential cause of such infection and subsequent putrefaction is the entry of bacteria, more especially through the intestines, after death. Birch-Hirschfeld has recently reaffirmed this and has brought forward certain observations of his own in favor of such a conclusion. It is an interesting point that Birch-Hirschfeld in this supposed invasion admits that the various organs show no particular sequence of infection as again that morbid changes appear in the intestine to have no influence on the time of appearance of the bacillus coli communis in the internal organs. It is most interesting further to observe that the period of ten hours mentioned by him corresponds singularly with the period mentioned by Flexner at which the blood of the cadaver loses its bactericidal function, and, lastly, it is of importance to notice that those who have explained the post-mortem infection by this method have never demonstrated what ought to be on this view most clearly demonstrable, namely, the existence of masses of bacteria in special abundance in the intestinal wall and appearing to be growing through that wall into the blood-vessels and surrounding tissues.

It is impossible from the above observations to come to any other conclusion than that at the moment of death, or shortly before, the lowering of the vitality of the tissues permits a larger number of bacteria than normal to be present in the living state in the blood and lymph. Just as when one removes the blood or takes the tissue juices outside the body and adds to certain quantities of these fluids a fair number of bacteria, the tendency is for certain of those bacteria to be destroyed during the first few hours, then gradually for the remainder to multiply; so in the dead body there would seem to be often, but not always, a preliminary period in which the bactericidal action of the tissues continues and the number of bacteria to be obtained from the tissues by ordinary methods is singularly small; following upon this there is multiplication.

But apart from this latent infection and the sudden and acute infection to which it may at times give rise, if we admit this normal passage in and normal destruction of bacteria by the tissues, there would seem possible an intermediate condition which may be termed *subinfection*, a condition of chronic inflammatory disturbance in which as a consequence—in connection with the gastro-intestinal tract—there may for long periods pass in through the walls of the stomach or of the intestine a greater number of ordinary bacteria inhabiting the tract, and while these bacteria undergo the normal and inevitable destruction by the cells of the lymph-glands, the liver, the kidney and other organs. The excessive action of these cells and the effect upon them of the bacterial toxins liberated in the process of destruction may nevertheless eventually lead to grave changes in these cells and in the organs of which they are part; changes which are of a chronic nature. At no individual moment may we find evidence of the presence of large numbers of living bacteria in such organs, but we may find the evidence of their presence in the cells and may find certain chronic inflammations associated with or the result of this overwork of the bacteria destroying cells. It is possible that there may exist a morbid condition, the existence of which has not so far been fully recognized. The absolute recognition and determination of this condition is ren-

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dered peculiarly difficult by the fact that any chronic catarrhal or inflammatory condition of the intestines is accompanied by abnormal fermentative changes in the intestine. And thus at the present time it is almost impossible to distinguish and divide conditions which might be due to this combined cell exhaustion and cell intoxication from the intoxication and the disturbances due to increased absorption of soluble poisonous products through the intestinal wall.

Certain observations that I have been making during the last two years lead me to believe in the possibility of such a condition as subinfection. In the first place these minute diplococcoid bodies are to be found peculiarly frequent in the liver cells in cases of hepatic cirrhosis, and, since finding these, the more I have myself made autopsies in cases of this condition and the more I have studied carefully the records of others, the more it has been brought home to me that accompanying ordinary progressive cirrhosis there is a chronic catarrhal condition of the intestines together with a definite enlargement of the retroperitoneal and mesenteric lymphatic glands. Here it is more especially in the cells at the periphery of the lobule that the presence of these bodies is noticeable; in those cells, that is to say, which are first fed from the blood coming from the portal vessels and which again are most liable to undergo atrophy and to be affected by the fibroid change occurring in the interstitial tissues.

The first view, that these little bodies were directly associated with cirrhosis and indicated a specific micro-organism, was rapidly modified by the discovery that cultures from the cirrhotic livers and from the bile in such cases, while at first tending to give a form of diplococcus, subsequent culture and passage through animals developed into a form morphologically unrecognizable from the colon bacillus, while frequently absolutely typical colon bacilli were obtained from these organs and from the rest of the body.

Later there has come a case of well-marked hepatic cirrhosis associated with great pigmentation of the skin and the intense development of the condition known as hemochromatosis. Here in this case, as in other cases of hemochromatosis, there was iron-containing pigment in the liver, the mesenteric glands, the pancreas, and to a less extent in the spleen, kidneys and the heart. What the cause of this hemochromatosis is has been a matter of very considerable conjecture of late years. A very full paper on the subject is to be found in the *Journal of Experimental Medicine* by Dr. Opie of Baltimore. In this he comes to the conclusion that the condition is a distinct morbid entity characterized by the widespread deposition of the iron-containing pigment in certain cells and the association of iron-free pigment in a variety of localities in which pigment is found in moderate amount under physiological conditions. With the pigment accumulation there is degeneration and death of the containing cells and consequent interstitial inflammation, notably of the liver and pancreas which become the seat of inflammatory changes accompanied by hypertrophy; while when the chronic interstitial pancreatitis has reached a certain grade of intensity diabetes ensues and is the terminal event in the disease.

Dr. Mause E. Abbott, who has been working at the Royal Victoria Hospital on this subject for some months, has reached somewhat different conclusions. He finds that this deposit of the iron-containing pigment is not necessarily the morbid entity which Opie would make it out to be. Dr. Abbott's material has been carefuly gone over, and to my astonishment it was found that where this pigment is not clumped together into too large masses, in the liver cells, for example, as again in the abdominal lymphatic glands, a very large proportion of the ultimate fine masses of pigment, reacting to Perl's test and containing iron, are distinct diplococcoid forms or bodies. Of this there can be no doubt. In short the condition of hemochromatosis is of bacterial origin, and just as Hintze and, even before him, von Recklinghausen pointed out, the slightest case of hemochromatosis presents itself merely as a brownish coloring of the abdominal walls. Here we may have a succession of cases in which at first only the abdominal walls and the mesenteric glands become the seat of the deposit of this pigment and to a slight extent the liver, then cases in which the liver is seriously involved with associated or accompanying cirrhosis, and in still others in which the pancreas also becomes the seat of this abundant deposit in the cells of minute pigmented granules which are the modified "corpses" of bacteria.

The appearance of these livers of hemochromatosis is of the same nature as that seen in pernicious anemia, and examining sections from pernicious anemia livers the same minute ovoid and diplococcoid bodies are seen in the liver cells. In short, in pernicious anemia pigmented granules are not merely, as has been thought up to now, a modified substance obtained by the disintegration of red blood-corpuscles, but are the evidence of such a condition of subinfection as that above referred to—the chronic inflammatory condition in the upper digestive tract being associated with excessive passing into the portal blood of colon and allied bacilli which subsequently take up iron-containing pigment from destroyed red corpuscles.

ASEPTIC CATHETERISM.

BY CARL BECK, M.D.,
OF NEW YORK.

CATHETERISM is the most important procedure in the treatment of the genito-urinary tract. As it has the dignity of a surgical operation, it should be viewed from a strictly surgical standpoint and should especially be preceded by the same preliminary precautions, at least in principle. These precautions consist in the sterilization of the instruments, the hands of the surgeon and the field of operation.

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As far as the first point, the instruments, in this instance the catheter, is concerned, it can safely be maintained that ideal asepsis has become an established fact, because all objects which stand boiling well can be rendered aseptic in boiling water; a means accessible everywhere. There is no more excuse for a surgeon to claim that "the poor circumstances of the patient's surroundings did not permit of aseptic precautions." Water, fire, and boiling-pot can be obtained in the poorest hut, so that not only instruments but also dressing-material, etc., can be sterilized. The hands of the surgeon should be thoroughly cleaned by mechanical means, *viz.*, scrubbing with soap and hot water. The sterile sand-soap mixture, advised by me, can also be used instead of a brush for scrubbing. Attention must be given to the folds and creases of the skin and the subungual spaces. The latter require the use of a nail-cleaner and energetic wiping with the soap. The skin is then dried with a clean towel and rubbed for about one minute with a gauze compress, saturated with fifty per cent. alcohol. The alcohol is used mainly for the purpose of dissolving the fat of the skin which shelters the bacteria; and by dissolving the shelter, the bacteria are removed at the same time. Whether washing with bichlorid of mercury is needed after these procedures is open to discussion; it will certainly not do any harm. With reference to the third point, the field of operation, we may safely say that if particular attention has been given to the balanopreputial space, that hotbed of different bacterial species, especially the bacterium coli commune, the introduction of bacteria *into* the urethra is surely prevented, provided the instruments and hands of the surgeon were sterilized as described above. The analogue to the balanopreputial space in man is the vulva in woman.

The great stumbling block, however, of thorough asepsis is represented by the fact that even the normal urethra contains numerous bacterial species, some of which unfortunately are pathogenic. Melchior found staphylococci as well as streptococci eight times in twelve cases in normal urethras. It is obvious that in a diseased urethra, and whenever catheterism is considered the urethra is generally in a pathologic state, the number, the virulence, and the varieties of bacteria are increased. While it is simply a matter of conscience whether the introduction of bacteria from without is prevented or not, it is utterly impossible to destroy intra-urethral bacteria. It is claimed that by the injection of one or another antiseptic drug with one or another perfect apparatus these bacteria can be destroyed. It is amazing to find such statements made by surgeons who would ridicule a prophylactic disinfecting process, attempted on the outer surface of the body, which would simply consist in irrigating the field of operation with a mild antiseptic. The modern surgeon is contented only after scrubbing with soap and water and subsequent application of alcohol and bichlorid of mercury or a similar antiseptic. And even then there is another surreptitious enemy of asepsis, intracutaneous bacteria, which should not be underrated. These cannot be reached by any disinfecting process. They are set free as soon as there is an injury of the integument, and it is only by protecting the skin margins of the wound with sterile compresses, after the skin is dissected, that they can be kept in check.

No precaution of this kind, however, can be taken in the urethra, which, moreover, is a much more congenial resting place for bacteria than the skin surface of the body. In the first place, scrubbing with soap and water and wiping with alcohol and bichlorid of mercury or similar procedures are out of question, and as far as antiseptic drugs are concerned, we can only resort to the mildest, since strong solutions would not be borne by the mucous membrane of the urethra. So it can hardly be expected that by simple irrigation of a mild antiseptic, the intra-urethral bacteria can be destroyed. And if there is an injury, be it caused by a cutting instrument or by the friction of a catheter, not only bacteria of the intra-urethral surface but also those sheltered by the follicles have a good opportunity to infect the adjacent tissues. This finds its simple clinical illustration in the fact that whenever blood shows after catheterization there will be a chill, the injuring instrument having opened an avenue for infection. So we see that thorough prophylactic disinfection of the urethra is still a pious wish. This, however, should not encourage any sins of omission. There are surely several points the observation of which will lessen the chances of infection. In the first place irrigation of the surface of the mucous membrane of the urethra will remove a certain number of bacteria. A much more important point is to avoid even the slightest injury while introducing a catheter. Any slight amount of friction may cause an abrasion and thereby open a way for infection. Force must therefore never be used during catheterism. The instrument always tells distinctly how far the surgeon may go, but it is necessary that its language be understood by the surgeon. Bearing in mind the fact that the bacteria in the lacunæ and follicles are set free by dissection, extensive intra urethral operation should be omitted whenever other means can be found to obtain the desired effect.

A third point is that, being unable to rely upon our usual aseptic methods, we should resort to those antiseptic principles which are applicable to the urethra. In other words, as our active antiseptic drugs, like bichlorid of mercury, etc., cannot display their valuable properties as fully in the urethra, we would better rely on a passive bacterial destroyer, like iodoform, which, while powerless where there is no injury, displays its unequalled properties in the presence of a lesion. Therefore I advocate the prophylactic injection of a five per cent. emulsion of iodoform in glycerin before the introduction of an instrument in the urethra. If an abrasion is caused, the iodoform will come in contact with the wound at the very moment it is made, and with the wound-serum at

its *stadium nascendi.* Iodin is set free, and during this chemical process bacteria are destroyed or their development at least is arrested.

Thus we see there are three most important virtues required in catheterism: Thorough cleanliness, extreme delicacy, and much patience. The same principles should be upheld if the patients are instructed to catheterize themselves. From a scientific standpoint, the trusting of such a surgical procedure to a layman is to be deplored, and such risky commissions should be resorted to only under the most pressing circumstances. Soft catheters should be chosen, and the fact that their usefulness is soon destroyed by repeated boiling should not be allowed to carry much weight in such a serious consideration.

CLINICAL LECTURE.

A SERIES OF CASES OF PISTOL-SHOT WOUNDS OF THE HEAD.

BY CHARLES PHELPS, M.D.,
OF NEW YORK.

THE following cases of pistol-shot wound of the head, nine in number, have occurred in my service in two hospitals during the last two years:

Case I.—Ambulance history: Bullet of 0.38 caliber entered the head just in front of the right ear, and made its exit in the left anterior parietal region. The wound of entrance was lacerated and one inch in length; the wound of exit was lacerated and measured one-half by one-fourth-inch in diameter; brain matter was extruded from both wounds; consciousness was primarily and permanently lost. The right pupil was dilated, the left contracted, and the corneal reflexes abolished. On admission to the hospital, thirty-five minutes after injury, the patient was still in a condition of general shock; the skin was cold and moist, pulse 120, respiration 20, and temperature 101.6° F. The right pupil was still dilated, and the left less contracted. The respiratory movements became slower and of the Cheyne-Stokes character, edema of the lungs developed and death occurred in fifty minutes.

The primary symptoms in this case can only be attributed to general cerebral contusion, and those which immediately preceded death were due to hemorrhage into the occipital basal fossæ compressing the medulla and pneumogastric nerve.

Case II.—Ambulance history: Bullet of 0.38 caliber, fired from a revolver of foreign make, entered head one and one-half inches above and one-half inch in front of the right ear. There was free hemorrhage from the left ear and from both nostrils. No cutaneous exit. Loss of consciousness was complete, and death occurred before the patient reached the hospital.

Necropsy.—Cutaneous lesions: The hair, which was short, curly, and moderately thick, was burned down to the scalp around the wound in an area of one and one-half inches. The skin was charred over an area of three-fourths of one inch, and symmetrically scorced just at the margin of the wound except inferiorly, where the scorch extended three-fourths of one inch beyond the charred area; there were no free grains upon the surface, and none embedded, and no smoke deposit beyond the hair. The cutaneous wound was one-eighth of an inch in diameter. Subcutaneous lesions: The bullet track was blackened and contained free grains of powder; there was no other staining of the tissues or laceration, and no separation of the layers of the scalp. Osseous lesions: The osteal wound was irregularly circular and one inch in diameter; the eroded margin of the internal table of bones was powder-stained. Intracranial lesions: The bullet penetrated the brain immediately above the fissure of Sylvius in its middle portion, emerged through the superior surface of the left frontal lobe, lacerated the dura mater, and comminuted the left frontal bone just anterior to the coronal suture and one inch to the left of the median line. The bullet was then deflected downward and backward, traversing the left lateral ventricle, and was stopped in the median line above the cerebellum. There was no powder-stain of the dura mater, and but few powder-grains in the cerebral track of the bullet. There was little intracranial hemorrhage.

Case III.—Ambulance history: Bullet of 0.38 caliber, Smith & Wesson, fired from a cheap pistol, entered the head two inches above and one inch behind the right external angular process of the frontal bone and made its exit at a point near the center of the left frontal region without having penetrated the bone. The patient was pulseless and unconscious. On admission to the hospital consciousness had been regained, temperature was 99.4° F., and there were no general symptoms. The wound of entrance was circular, one-fourth of one inch in diameter, clean cut, and its edge was not burned; the hair was scorched in an elliptical area of two and one-half inches in its long diameter; the skin was scorched in an area of one by one and one-half inches, and powder-grains were embedded with traces of smoke in an area of one inch. The subcutaneous track of the bullet was found after the wounds of entrance and exit had been connected by incision to be powder-stained and the external table of bone to be depressed in a circular area of one-eighth of one inch in diameter with a fine semi-circular fissure above it. On the second day the patient became actively delirious; on the third day the temperature rose from 101° F. to 104.6° F., and rectal and vesical control was lost. The pupils were normal, and the delirium was thought to be of alcoholic origin. On the fourth day the mental condition became clearer and the temperature was reduced to 101° F. On the fifth day the temperature rose to 104° F. The pupils were somewhat contracted. There was alternate stupor and delirium, and there were muscular twitchings and picking at the bed-clothes, with continued loss of control over the feces and urine. On the sixth and seventh days the pulse was weaker and more frequent, and the temperature

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varied from 103° to 105.6° F. On the eighth day the patient died in coma with a temperature of 106° F.

Necropsy.—Cutaneous lesions had disappeared. The osseous lesions were confined to external table; skull at site of injury three-sixteenths of an inch in thickness; no increase in subarachnoid fluid; trivial cortical hemorrhage upon surface of third right frontal convolution posteriorly derived from minute laceration at that point; pial hemorrhage over posterior part of right occipital lobe; general edema of brain substance with marked hyperemia of both occipital lobes and of right basal ganglia.

This case is one of the admitted exceptions to a general rule which has been formulated, that a pistol ball never causes a simple fracture and rarely a compound fracture, which is more than nominal unless the bone is also penetrated.[1]

This pistol-shot injury was attended by a fatal result and obvious intracranial lesions were disclosed. Death resulted from cerebral hyperemia and edema, the cerebral laceration and hemorrhage having been too insignificant to have occasioned symptoms; but while the pial hemorrhage and the localization of hyperemia in certain regions of the brain indicated the effects of traumatism, the patient's history and his early symptoms indicated also the influence of alcoholism. Whether the cerebral contusion would have proved fatal had the circulatory conditions not already been disturbed may be open to question. If, however, as it may well have been, the impact of the ball although causing so little osseous injury was solely or essentially responsible for the cerebral lesions this case is not only exceptional but remarkable.

Case IV.—Bullet of 0.38 caliber entered the head one inch behind and a little above the right external angular process of the frontal bone and was lodged in the subcutaneous tissue of the left upper eyelid; it was removed by incision. There was said to have been profuse hemorrhage from the nose, subconjunctival hemorrhage in both eyes, and ecchymosis of both orbital regions. It was also said that there were no general symptoms then or immediately afterward. The patient was admitted to Bellevue Hospital one month later and was then rational. Vision in the left eye was lost, and was limited in the right; temperature 99° F. On the morning of the following day a severe chill lasting twenty minutes was followed by a temperature of 103° F., which in twelve hours rose to 105° F. On the following day the condition of stupor lapsed into coma, which continued until death, which occurred on the fifth day. The urine was retained except on the second day, when there was loss of bladder control. On the last day there were general convulsive movements. The temperature after the day of invasion was of lower range. On the third day it was from 102.6° F. to 103.8° F., on the fourth day from 100.6° F. to 102° F.; and on the fifth day from 100.6° F. to 102.8° F.

[1] Phelps, "Injuries of the Brain," pt. II., pp. 335-336.

Necropsy.—The bullet passed through the upper part of the right orbit, and nasal fossæ into the left orbit, fracturing the orbital roofs without perforating the orbital periosteum, but driving spiculæ of bone into the inferior portion of both frontal lobes. Areas of purulent infiltration were scattered through the left orbit.

The dura mater was congested, thickened, and adherent to the pia mater. A layer of creamy yellow pus covered the entire surface of the brain, extended into the spinal canal, and was very abundant over the medulla and inferior surface of the cerebellum. The pia mater was closely adherent to the cerebral cortex in various parts. The cortical tissues were soft and edematous.

Bacteriological cultures afforded a mixed growth of the diplococcus intracellulosis meningitidis, of the bacillus coli communis, and of a short thick bacillus positive to Gram's stain not yet identified. (Brooks.)

Case V.—Bullet of 0.32 caliber entered the head one inch behind and one-half inch above the right external angular process of the frontal bone; no exit; hair scorched in area of one and one-half inches diameter, and skin in area of one inch; powder grains embedded in area of one-half inch; and smoke stain thick in an irregular area of approximately two inches diameter below and behind the wound.

Primary symptoms: Temperature 98° F., pulse 76, respiration slow and shallow; patient conscious but apathetic; pupils contracted and only slightly reacting to light; vision in right eye diminished; urinary control retained; no muscular symptoms. There was hemorrhage from the right nostril; blood and brain matter escaping from the wound. Fragments of the internal table of bone were removed, and the probe easily followed the ball track to a point near the left orbital plate. The wound healed at once without suppuration.

Later symptoms: There were no general symptoms aside from an abnormal mental condition until the twenty-fourth day, when the patient became unconscious. He was always apathetic and when sufficiently roused to make answer to questions was incoherent and his power of comprehension was deficient. Nourishment was given with great difficulty. Vesical and rectal control was lost with consciousness; at about the same time the lower extremities became rigid and their reflexes exaggerated. Death occurred on the thirty-first day.

The temperature until the eighteenth day ranged from 98° F. to 100° F., except on the fourth and fifth days, when it rose to 103° F., and on the eleventh day, when it rose from 98° F. to 104° F. From the eighteenth to the thirty-first days it ranged from 102° F. to 106.2° F. The pulse was ordinarily from 40 to 60, and only exceeded 100 towards the close of life.

Necropsy.—There was no epidural hemorrhage; the dura mater was adherent and there was a diffused subarachnoid seropurulent effusion. The crista galli was broken off. Upon

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section the anterior half of the left frontal and anterior third of the right frontal lobe were each found to contain a large area of thick, creamy material, including fragments of bone and lead. A cylindrical area of softened material one-half inch in diameter extended from the disintegrated portion of the left frontal lobe through the left lateral ventricle to the postero-inferior part of the left occipital lobe, at the termination of which the bullet was lodged one-half inch below the surface. Small particles of bone and lead and a few grains of powder were found in the left frontal lobe outside the area of disintegration. The frontal sinuses communicated with the cranial cavity and contained a seropurulent fluid.

These last two cases exemplify the special danger from fractures involving the anterior fossæ of the cranial base. It is practically impossible to guard against infection through the throat and nose. In both of these cases septic arachnitis supervened; in Case IV. the path of infection must have been either through the orbital periosteum or through the ethmoidal cells; in Case V., although it might have led through the frontal wound, the late invasion of the disease makes it more probable that it was through the frontal sinuses in which a suppurative process was found to exist in continuity with that of the cranial cavity. In Case V. the predominance of mental symptoms during the time consciousness was retained was quite in accordance with what the writer has noted as characteristic of lesion of the left frontal lobe. The contention made in the work upon "Brain Injuries," previously quoted, that laceration of that lobe, either with or without laceration of the right lobe, occasions mental aberration or decadence, which is absent when the right lobe alone is injured, has since been sustained by the observation of a second series of cases of which this is one.

Case VI.—Bullet of 0.32 caliber entered the head immediately above the right external angular process of the frontal bone, inflicting a cutaneous wound one-eighth of one inch in diameter; the skin was scorched in an area of three inches, powder-grains were embedded in an oval area of two inches in its long diameter, and there was orbital and subconjunctival hemorrhage. The bullet was firmly imbedded in the bone, which was fissured toward the root of the nose.

The bullet was removed and the inner table of bone was found to be shattered and the dura mater wounded. Drainage was employed for three days. No general symptoms occurred at any time.

Case VII.—Bullet of 0.38 caliber entered the head one-half inch above and in front of the right external auditory meatus; the top of the ear was shot away; powder-grains in area of three inches; skin unburned; tips of hair singed; hemorrhage from right ear; temperature, 99.6° F., pulse 64, respiration, 16; consciousness retained. On the following day the pupils were dilated but responsive to light and accommodation, the cervical muscles were rigid and somewhat painful, and the temperature ranged from 99° to 100.2° F. The patient was then transferred to another hospital, opportunity for explorative examination not having been afforded, and nothing is known of his subsequent history, except that he was discharged from there two months later.

Case VIII.—Bullet of 0.22 caliber entered the head one and one-half inches behind the left external angular process of the frontal bone; wound minute; no burning of hair or skin; smoke area of two inches in diameter; powder-grains embedded in temporal muscle but not in the skin; stellate depressed fracture; bullet embedded in a fragment of bone and lying upon the dura mater, which was black with powder-grains and contused but not lacerated; depressed bone and dura mater powder-stained in area of one inch.

The bullet was removed and the depressed bone elevated by use of trephine and rongeur. No general symptoms followed.

The patient admitted that though not left-handed he had shot himself with his left hand to induce the belief that his wound was homicidal. This case has therefore a medico-legal significance. The fact that a right-handed person was shot in the left temple might seem to justify an inference that the wound was not self-inflicted; but this instance of attempted wilful deception on the part of the wounded person demonstrates the worthlessness of any deduction from such a purely hypothetical premise.

Case IX.—Bullet of 0.38 caliber, Smith & Wesson, entered the head one-fourth inch behind the right ear, making a vertical wound one and one-fourth inches long; another wound extended through the ear into the meatus auditorius externus. There was no burn, smoking or powder-stain of the skin and no embedded grains of powder. The edge of the wound was blackened and the subcutaneous tissues were infiltrated with powder. The osseous wound was two-fifths of one inch in diameter. The probe, on being passed into the petrous structure, detected neither bullet nor loose pieces of bone.

On admission the patient's mental condition was normal; ten minutes afterward three general convulsions occurred in rapid succession and were followed by coma. On the following day the mouth was drawn to the left; an inability to close the right eye was ascertained later to have existed prior to the present injury. The temperature after admission remained at 101° F.

The osseous wound was enlarged with a chisel and the bullet extracted. The bullet was split in its long axis and its two portions extended upon each other at a very obtuse angle, forming a mass one and one-eighth inches long lying in the long axis of the petrous portion, which it seemed to fill. A number of osseous fragments, constituting a considerable portion of the petrous process were removed, the removal of the last portion being followed by a small extrusion of brain matter. The patient recovered without the occurrence of general symptoms.

These cases in their aggregate are fairly rep-

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resentative of that minority of pistol-shot wounds of the head which are not immediately fatal. If the one be excluded which failed to reach the hospital ward the fatalities and recoveries are in equal number. One only of the recovering cases was of importance. In this the brain was lacerated and life was probably saved only by operation. In two other instances, Cases VI. and VIII., in which the dura mater was wounded or contused, early operation, if the result of recorded cases in which it was neglected may be taken as a criterion, also saved the patient from mishap. In two of the fatal cases the bullet made complete exit; in the third it was removed from the eyelid, and in the fourth it remained in the brain until death on the thirty-first day. In the final case the bullet was lodged at a site admitting counter-trephination. The preliminary examination, however, revealed a deflection in its course which prevented even a conjecture as to its location, and the hospital had no apparatus for making examinations under the X-rays. Necropsy proved that its retention had no influence in the development of fatal symptoms; it was the fragments of bone and lead which were as usual the source of danger and disaster.

There can be at the present time no reasonable doubt that all pistol-shot wounds of the cranium and all those involving the cranial cavity should be carefully explored and that as far as practicable not only the bullet but all fragments of bone should be removed.

CLINICAL MEMORANDUM.

A CASE OF POLYDACTYLISM.

BY A. L. BENEDICT, M.D.,
OF BUFFALO, N. Y.

THE photographs from which the accompanying cuts were reproduced were taken during one of my vacations, and as the case is entirely outside of my practise they have not been hitherto published. The patient was a boy of seventeen,

Fig. 1.

Showing extra toe.

Fig. 2.

Showing extra finger.

otherwise normal, and with no significant family history, unless his belonging to the Jewish race, which is the purest and most highly inbred encountered among American Caucasians, has some remote etiologic bearing on the deformity. Each extra digit has a distinct articulation with the fifth metatarsal or metacarpal bone, respectively. The tendons, so far as could be determined, are the same as for the fifth digits. Independent muscular action of the sixth digit is impossible. Two or three years previously, the patient had purposely twisted the sixth toe on to the dorsum of the foot, for greater convenience in wearing shoes. Except for the difficulty of wearing a glove, the patient experiences no difficulty with the hand, and he can catch a ball, pull an oar, and indulge in similar exercises as well as most boys.

MEDICAL PROGRESS.

Sarcoma in the Stomach of a Child Three and a Half Years.—FINLAYSON (*Brit. Med. Jour.*, December 2, 1899) mentions a case of sarcoma of the stomach in a young child which puzzled the physicians during life and which was only recognized at autopsy. Vomiting was a prominent symptom although it did not seem to have any special relation to feeding, and the vomited material was in no wise characteristic. There was constipation alternating with diarrhea. The child was profoundly anemic and his anemia and weakness were progressive up to the time of death. A tumor, which was supposed to be the spleen, was

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felt in the left hypochondrium. Pain was not present. At autopsy the tumor was found to occupy the posterior wall and a part of the greater curvature. It measured an inch across the mucous surface and two inches externally. The sarcoma of the spindle-celled variety.

Unusual Gunshot Wound of Brain.—BARKER (*Lancet*, December 2, 1899) reports a case in which a man with suicidal intent discharged two shots from a revolver through his mouth upward and backward. For forty-eight days there was occasional vomiting. There was at first no paralysis, but later the power in the left arm and leg was considerably reduced. The temperature was at no time over 100° F. Consciousness was not at any time suspended. After six weeks the vomiting ceased, the slight headache of which he had complained disappeared, and the power of the left arm and leg increased so that he was soon able to walk. Both bullets were shown by skiagraphs to lie within the skull. Making due allowance for the different size of the shadows and that of the man's head, the operator's calculations led him to the conclusion that one of the bullets struck against the vertex and fell backward into the median fissure. In describing the effect of the shot, the patient said that he felt the bullet rattle against the vertex. As long as the presence of the bullet caused no serious symptoms Barker concluded that it was best to leave it alone, but on the sixty-sixth day the patient had a convulsive seizure lasting from three to five minutes. Two days later he had a similar attack and an hour after the second a third; on the following day he had a fourth. On the following day an osteoplastic flap was sawed out and turned back with the base toward the middle line, thus exposing the longitudinal sinus without injuring it. A probe passed along the fissure in the direction in which the bullet was supposed to lie touched the bullet, and it was removed with forceps under the guidance of the little finger. The finger acted better than the probe as during a coughing spell, the latter produced slight injuries to several vessels and to the brain substance. There was, however, very little bleeding. The dura was stitched in place as far as possible and the osteoplastic flap replaced. Consciousness returned rapidly but sensation and motion were absent from the whole left side with the exception of the face. They returned slowly, and a month after operation, while there was fairly good sensation, the use of the left arm and leg was still very imperfect. Afterward the power of the muscles greatly improved, but the epileptic fits recurred so that a year after the injury, Chipault of Paris trephined and separated some adhesions between the two hemispheres. For nine days prior to this operation there were from sixty to one hundred epileptic seizures in a day with complete hemiplegia. After the operation the epileptic attacks disappeared and there was a steady gain in power in the left leg and arm.

Chemical Nature of Enzymes.—From a physiological as well as from a purely chemical standpoint the enzymes, or ferments, form one of the most interesting groups of organic compounds. In *Science*, December 29, 1899, O. LOEW classifies them as follows:

1. Enzymes which are intimately connected with nutrition, as diastase, pepsin, trypsin, lipase, etc.

2. Enzymes which cause oxidations—the oxidases.

3. Enzymes which bring on coagulations, the clotting enzymes: rennet, thrombase, pectase.

The first group has been known the longest and best. The practical importance of the others is increasing daily. In addition to these enzymes which act on glucosides, fats, carbohydrates, and true proteins, there are a number of others which are active in limited spheres. Certain fungi and mites attack the keratin in the hair and skin. Certain other insects and fungi attack the chitin of insects' wings. A large and important group is made up of the bacteriolytic ferments, produced by certain kinds of bacteria themselves. These enzymes play an important rôle in the recovery from and immunization against infectious diseases. It is of interest to note that certain bacteria produce enzymes that later kill the bacteria. Thus *bacillus pyocyaneus* "commits suicide by means of its own enzyme." Loew suggests three important questions with reference to these bodies. (1) Are the enzymes proteins or not? (2) How can one explain the fact that a very small amount of an enzyme can transform a relatively large amount of another compound? (3) What is the cause of their quite specific action, the reason that they can only attack a specific compound and not other, even closely related ones? In answer to the first question, it seems probable that different enzymes may exist in every one of the protein groups, and some may exist that are not proteins, although derived therefrom. No satisfactory answer has yet been found for the second question. The closest analogies seem to exist between the catalyptic phenomena known of certain metals. These are dependent, in the case of enzymes, on the liability or activity of chemical interchange whereby enzymes are capable of transforming heat energy into chemical energy. This clinical energy is capable of being transferred to other compounds. The answer to the third question is a much involved chemical one, depending upon molecular structure.

New Method of Skin-grafting.—KELLOCK (*Lancet*, November 25, 1899) has hit upon a method for providing a large piece of skin for use as a graft. By the ordinary methods, if a thick piece of skin is taken it fails to unite, whereas a thin Thiersch graft, while uniting easily, does not prevent cicatricial contraction. The author's method is to mark out a square piece of skin and to cut on its four sides a thin Thiersch graft, leaving it attached in the central portion which is then dissected up from the subcutaneous tissue. Such a graft, if properly applied to a raw surface will unite almost as readily

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as an ordinary Thiersch graft, while its thick center, comprising the whole thickness of the cuticle, limits cicatricial contraction. The wound caused by its removal may be approximated by sutures or may be covered by a thin graft.

Tuberculosis of the Kidney.—Usually cases of tuberculosis of the kidney do not come under the physician's eye until the symptoms are so well marked that a diagnosis is comparatively easy—to make a diagnosis early requires considerable skill. A method described by C. P. NOBLE and W. W. BABCOCK (*Amer. Gynecol. and Obstet. Jour.*, December, 1899) enables one to make a diagnosis in an early stage or in a case of obscure character. This method consists in catheterizing the urethra with sterile catheters and collecting the urine. The sediment from the urine thus obtained must then be injected into guinea-pigs. If a kidney is tubercular the urine from it will infect the guinea-pig, as they are extremely susceptible to the tubercle bacilli. The objection to this method of diagnosis is the time required for its completion, as from four to six weeks are necessary. Care must be taken that the catheters and the tubes into which the urine is collected are sterile and that all sources of contamination are avoided. The writers report a case in which the diagnosis, made in this manner, was corroborated by an operation on the affected kidney. The sediment of the urine was used and about 1.5 c.c. from each kidney was injected respectively into two guinea-pigs. When the guinea-pigs were killed the one which received the sediment from the right kidney showed tubercular deposits. The operation on the right kidney showed a large suppurating tubercular kidney.

Action of Euphthalmin.—The physiological action of euphthalmin, a recent substitute of atropin, has been carefully studied in an article by GELANTO VINCI (*Therap. Monatsh.*, December, 1899). In both cold and warm-blooded animals there is noted a primary irritation of the nervous system in the form of restlessness, excitement, increased reflexes, and respiration, then tonic and clonic spasms, opisthotonos, exophthalmos, and disturbed respiration. Later, a general paralysis supervenes, but before death the excess of carbon dioxid may again cause convulsions. Peripheral nerves, especially the motor, suffer paralysis, but this in animals occurs later than the centric changes. The heart shows the characteristic vagus paralysis of atropin, preceded in small doses by a slowing of the pulse. Despite the increased cardiac activity, blood-pressure falls, since the vasomotor system is directly paralyzed. Of especial interest is the salivation caused by instilling the drug into the conjunctiva; it disappears later and is due to irritation and paralysis of the secretory fibers of the chorda tympani. Mydriasis begins fifteen to twenty-five minutes after the use of 2 to 3 drops of a two to ten-per-cent. solution, reaches its maximum in three-quarters to one hour, and disappears after three to eight hours. It is also seen after the internal use. It is due to a paralysis of the nerves of the sphincter iridis, without any irritation of the sympathetic dilator fibers. Conjunctivitis or general symptoms never follow the use of ordinary solutions and the fact that intraocular pressure does not seem to be increased makes its use in glaucoma possible.

Thyroid Extract in Tuberculosis.—In a lecture delivered before the Tuberculosis Commission in Munich by E. KLEBS, and reported in the *Berliner klin. Woch.* (December 11, 1899), the author dilates upon the good results attained in tuberculosis by the use of expressed juice of thyroids. The administration of this drug is not entirely empirical but is founded upon well-directed experimentation. Thus, it is well known that there are many cases of tuberculosis in which the changes in the lungs are very slight, while the chief symptoms and danger are referable to the stomach. Most of these cases suffer from *achylia gastrica*, accompanied by a heretofore little observed thyroid atrophy. Klebs had previously experimented upon animals in which the thyroid gland was extirpated and found the same stomach conditions as obtain in tuberculosis. Such animals could be kept alive on fluid diet for a long while, whereas the ingestion of solid food was followed almost immediately by severe nervous manifestations. Following these experiments, he extirpated one of the thyroids of a healthy dog (previously weighed carefully), locating the position and size of the other gland as exactly as possible. Then he injected tubercular toxin subcutaneously, in not sufficient dose to kill, in the dog's body at a distance from the remaining thyroid gland. After ten to twenty such injections he obtained the results anticipated in the stomach of the animal. The gastric contents were studied by means of fistulæ. As a result of the analyses there were found absolutely no HCl. and no pepsin. The thyroid gland was found to have decreased in weight and size to almost one-half of its previous dimensions, and the colloid substance had disappeared entirely. The epithelial cells were unchanged in themselves, but were scattered within the lumen of the gland. As a result of these experiments, Klebs conceived the idea of feeding tuberculous patients having severe achylia gastrica with freshly prepared thyroid secretion. To demonstrate his success, he cites two cases in which the bodily weight increased markedly as a result of thyroid feeding.

Treatment of Scabies.—The use of a soap containing as active ingredient the extract of tobacco in scabies and other itchy skin diseases is highly recommended by J. MARCUSE (*Therap. Monatsh.*, Dec., 1899). His directions are to wash in warm water morning and evening, and after each cleansing to thoroughly shampoo the entire body with this soap, the foam of which is allowed to dry on the skin. After three or four days of this

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treatment, a warm bath is taken, when the cure is generally affected. As advantages of this procedure are mentioned the absence of skin irritation and relapses and the cheapness of the material employed.

Pathology of Aneurism of the Aorta.—ARNOLD HELLER of Kiel (*Münch. Med. Woch.*, Dec. 12, 1899) comes to the conclusion that aortic aneurisms in the majority of cases represent the results of a syphilitic process. After drawing attention to such facts as the great frequency of these aneurisms in syphilitics, the occasional presence of them in both man and wife, and the good results achieved with antiluetic treatment, the author presents sufficient pathologic evidence to warrant his belief that these lesions are but rarely caused by a primary chronic endarteritis. Microscopically the changes manifest themselves in a circumscribed or more diffuse infiltration of round and giant cells, involving primarily the media, along whose vasa vasorum the process is most active. As a result, the muscular element will undergo more or less destruction with obliteration of its nutrient vessels. The new growth will secondarily involve the intima, leading to thickening and even projection into the lumen of the vessel. Atheromatous abscesses which so frequently are seen in chronic endarteritis do not, however, occur. Eventually even the adventitia may be invaded, and the cellular tissue will become more fibrous, so that finally the tunica are hard and cicatricial. The process is analogous to syphilitic lesions in the viscera and differs greatly from chronic endarteritis; in old people, however, the two are often seen combined. While the author thus satisfies himself as to the purely luëtic character of aortic aneurisms, he is not willing to admit that these structures may not occasionally have a different etiological basis. Thus aneurisms by rupture or embolism may occur, and there is no reason to believe that other infectious diseases, such as typhoid, may not lead to changes in the arterial walls with subsequent yielding. In true aneurisms, however, syphilis is the only factor of importance, hence an active antisyphilitic treatment should always be advised.

Heroin and Its Advantages.—The usefulness of heroin, a derivative of morphin, in allaying the cough of phthisis, acute and chronic bronchitis, and pneumonia, is strongly urged by H. D. FULTON (*N. Y. Med. Jour.*, Dec. 30, 1899). In the phthisis cases in which the patient is harassed by an almost incessant cough or by severe paroxysms occurring especially at night, the value of this drug is particularly noticeable. It is usually administered in $^1/_{16}$ grain doses every three hours, and is followed by a marked freedom from cough and thereby restful nights. It does not seem to require an increase in dosage, and stomach symptoms appear only when large doses are prescribed. In acute bronchitis it seems to ameliorate somewhat the severity of the attacks, but its chief indication is to tranquilize the persistent cough. A solution of heroin for hypodermatic administration may be prepared by the addition of a small amount of acetic acid and will be found equally efficacious as morphin and less objectionable in cases of spasmodic asthma.

Injection Treatment of Pleurisy.—An interesting report of the results following the treatment of serous effusions into the pleural cavity by the injection of irritants is given by C. H. LEWIS (*Med. Record*, Dec. 30, 1899). The methods of emptying a pleural cavity of fluid are (1) by aspiration and (2) by absorption through the lymphatic channels. The former, which is by far the more rapid, would be an ideal method were it not for the frequent recurrence of the fluid and the necessity for repeated operations. When spontaneous absorption occurs it usually leads to permanent results, but it is generally so slow, even when aided by the drainage of the system through the bowels, kidneys and skin, that the patient becomes greatly debilitated. When nature produces a permanent cure the surfaces of the pleura are found to be firmly glued together, preventing any encroachment of fluid. The object of the injection treatment is therefore to imitate nature by stimulating the exudation of fibrin, which acts as a cement substance as the fluid is absorbed. In order to safely inject an irritating solution so that it will act upon all surfaces bathed by the serous effusion, certain conditions must be fulfilled. The irritant must be in permanent solution, it must be aseptic, and the volume of the fluid must not be changed. Experiments were made with iodin, permanganate of potash, and the analine dyes, fuchsin and methylene blue. All proved unsatisfactory except the blue, which is antiseptic; anodyn has diuretic properties and is easily detected in the urine. The ideal vehicle for this irritant was found to be the serum freshly drawn from the pleural cavity, which is a good solvent and at least would introduce no new germs. A large aspirating syringe was used with a rubber tube attached to the outflow tube of the syringe and extending into a glass graduate which holds the methylene blue. A glass rod for mixing the blue and serum was inserted with the rubber tube into the graduate and the entrance plugged with cotton. The whole outfit could then be easily sterilized. Twenty cases of pleurisy with effusion were treated by this method. From eight to fifteen grains of methylene blue were mixed with from fifty to one hundred cubic centimeters of the fluid, withdrawn and then reinjected. All the patients were discharged cured on an average of 13.1 days after the injection was made. In four cases paracentesis was performed a few days after injection without apparently hastening the convalescence, and internal medication did not materially affect the recovery. It seems reasonable to suppose that the antiseptic power of the blue acts directly upon the germ which in many cases is undoubtedly the tubercle bacillus and also stimulates the exudation of the fibrin cement.

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Surgical Treatment of Phthisis.—W. C. WOOD (*N. Y. Med. Jour.*, Dec. 30, 1899) mentions four methods of surgical treatment in phthisis: Aspiration and medication; pneumonotomy; pneumonectomy; and obliteration of the cavity by causing collapse of the lung. Aspiration is easy and safe, but unsatisfactory because good drainage is impossible and direct medication futile. Pneumonectomy is satisfactory because of good drainage. It is indicated when the tuberculous involvement is not extensive but the patient is suffering from septic symptoms of an easily recognized cavity, in the hope that relief from sepsis will allow the tuberculous lesion to heal. The operation consists of superiosteal resection of a rib and incision of the parietal pleura. If the visceral pleura is not adherent to the parietes, one may do either a primary incision of the lung or wait until adhesions have formed. An aspirating needle is used to determine the location of the cavity; and the lung is incised with the cautery if it is soft and inflamed, or with the knife if it is hard. Irrigation is not admissible and the cavity contents must be kept from the bronchi. The lung is not sensitive. Pneumonectomy is not a legitimate procedure for pulmonary tuberculosis. Obliteration of the cavity by causing collapse of the lung results from injecting nitrogen into the pleural cavity. The enforced rest of the lung assists cicitrization. The gas should be left in the pleura for from three to six months; it remains unchanged and when it is withdrawn the lung readily expands. Septic infection and injection of nitrogen into the lungs must be avoided. Patients consent readily to this procedure and receive immediate benefit. A sufficient number of cases have not yet been reported to establish its general application.

The Thyroid and the Menopause.—It is well-known that there is some connection between the generative organs of both sexes and the thyroid gland. C. R. BURR (*Boston Med. and Surg. Jour.*, December 21, 1899) reports the case of a woman, fifty-six years of age, who had an apopleptic stroke, nearly a year and a half after her menses had ceased, in which she lost power of speech and the use of her right side. Since the menopause she has had the numerous nervous symptoms generally attributed to that period. There were flushings, neuralgias, hysterical attacks, a rapid pulse, and loss of weight. Nine months after the apoplectic attack there was marked tremulousness, flushed face, and an injected eye. Speech was thick. She perspired profusely, was markedly emotional, and her pulse was from 100 to 120. She could not endure any pressure about the neck. Both eyes were prominent and the thyroid gland was enlarged. Tincture of belladonna, ♏ ii t. i. d., was prescribed, as the writer decided that it was a case of exophthalmic goiter. At the end of two weeks the sense of oppression around the neck had disappeared, the thyroid could hardly be felt, all the nervous symptoms were diminished or absent, and the eyes were no longer prominent.

The thyroid is congested during menstruation, coition, pregnancy, and accouchement. It is not known definitely whether its secretion is also increased, as it is with the congestion in exophthalmic goiter. It would appear from the above case, the writer thinks, that the menopause caused the congestion of the gland, and that the active principle of the secretion caused an auto-intoxication, as in exophthalmic goiter. The symptoms of the menopause are very similar to the secondary symptoms of thyroidal intoxication. A number of other symptoms presented by the patient were also attributed to the intoxication caused by the excess of thyreoglobulin in the circulation.

Calculus in the Ureter.—H. MORRIS (*Lancet*, December 16, 1899) has tabulated a number of cases in which operation was performed for ureteral calculus. It is necessary to note the seat of inpaction. In 19 it was within two inches of the kidney, in 15 just before passing through the vesical wall, and in 11 about at the level of the brim of the pelvis. It is worth remembering that 12 of the 15 cases in which impaction at the lower end occurred were in women. In most of the cases in which the stone was impacted near the renal end it was discovered after exploration of the kidney, the kidney itself containing no stone. Whether or not a calculus has been found in the kidney, a surgeon should never conclude a nephrotomy for stone without passing a probe into the ureter. In the present state of our knowledge of the symptoms of stone in the kidney and stone in the ureter, the two conditions cannot always be differentiated; since with stone in the kidney the greatest pain and tenderness may be in the course of the ureter, while in case of impacted ureteral calculus there may be other stones in the kidney, giving rise to pain and tenderness in that organ. In very thin persons a stone impacted above the brim of the pelvis has sometimes been felt. If the stone is near the bladder ecchymosis around the ureteral orifice may be detected by the cystoscope. Attacks of pain and hematuria, extending over some days or weeks, and gradually progressing downward, should arouse suspicion of ureteral calculus. A small calculus with sharp processes is apt to stick in the wall of the ureter, and give more trouble than a larger and smoother one. If both ureters are obstructed at the same time fatal uremia is likely to occur. Some have asserted that if a calculus exists in only one ureter reflex action may stop the flow of urine through the other kidney. Morris denies that such a mishap can take place if the other kidney is structurally healthy. Dilatation of the kidney is apt to occur in those cases in which the calculus is in the upper end of the ureter and from time to time slips back into the pelvis of the kidney. If it remains in the ureter the latter will be permanently blocked either by the calculus itself or by the fibrous tissue which forms around it. Under such circumstances the kidney will in time be

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converted into a fibrous mass or a small sac. If a calculus is known to have blocked a ureter, medicinal treatment should not be long continued on account of danger to the kidney and even to the life of the patient. Extraperitoneal ureterotomy should be performed and the calculus removed. If possible the calculus should be displaced upward and removed a little above the point from which it has been lodged; by this means an incision through the damaged wall is avoided, and if the calculus is below the pelvic brim the operation is greatly simplified by lifting the calculus out of the hollow of the sacrum. In the cases reported by Morris, 33 patients recovered after operation and 12 died. It is only fair to state, however, that in most of the fatal cases obstruction or even complete suppression of urine had lasted for several days before operation.

Antitussin in Whooping-Cough.—There are few drugs in the Pharmacopeia which have not been used in the treatment of this affection and with all of them the result has been doubtful. Bromoform, antipyrin, pertussin (Taeschner's) have all been weighed in the balance and found wanting. In the *Berliner klin. Woch.* (December 11, 1899) MAX HEIM gives the results of his experience in 16 cases of whooping-cough treated with the very latest preparation, namely, antitussin. This is an organic compound of fluorin mixed with vaselin and wool-fat (di-fluor-di-phenyl, 5; vaselin, 10; adep. lanæ hydros, 85 parts). In many of the cases failure had followed the use of the above-mentioned favorites, even pertussin, about which so many favorable reports have been heard. In no instance did antitussin fail the author in the attainment of much-hoped for results. As the fluorids are all badly borne by the stomach the administration of antitussin is best carried out in the stated form of an ointment which is applied to the neck, chest, and interscapular region of the back. Before applying it, however, these regions must be carefully washed with soft soap and rubbed dry with a rough towel. The quantity of ointment to be used should be about two or three drams and the rubbing should be continued until all the salve has disappeared. In 7 cases the treatment was begun before the convulsive stage was reached, the other 9 cases after convulsive coughing seizures had made their appearance. The diagnosis in the first series of cases was naturally difficult but the author was enabled to arrive at it partly by means of the circumscribed redness and swelling in the region of the vocal bands (Hagedorn), and partly by the fact that the disease was rampant in the neighborhood at the time and its transmission from patient to patient easily demonstrable. The second series of patients was largely made up of severe and even dangerous ones. The patients were some of the age of only four months, and their environment of the worst possible; the attacks were of severe nature, followed frequently by epistaxis; the general health of the patients was very poor, and in many cases only a fatal issue seemed possible. In every single case, however, after the application of antitussin, there appeared a speedy and at times surprisingly complete relief from attacks. None of the ordinary sequelæ of whooping-cough such as bronchiectases, cheesy degeneration, and so on, was demonstrated by the author. He follows the presentation of his cases with several general considerations, *viz.:* (1) Antitussin makes the attacks of pertussis much milder, changing the character of the disease to a purely catarrhal one; (2) the drug loosens the phlegm and mucus markedly, allowing the patient to relieve himself with ease; (3) the number of attacks diminishes as early as the second day of treatment to one-half, and daily thereafter until entirely gone. The period of convulsions, variously estimated at from five to ten weeks, is reduced to from a few days to at most two weeks; (4) as antitussin is comparatively non-poisonous in the amount used, no untoward results of its administration are witnessed. In all throat and laryngeal affections the preparations of fluorin, especially antitussin, are highly recommended. They relieve the catarrhal conditions and the many annoying reflexes (sneezing, coughing, etc.), as well, in a remarkably short time. Antitussin, therefore, is a drug which seems to be the one much sought for by the medical profession for many a year.

Practical Points on Diseases of the Rectum.—All physicians recognize the difficulty of obtaining a patient's consent to a rectal examination when the symptoms point to some local disturbance. Perhaps more success would be met with if the physician thoroughly appreciated the natural hesitancy toward such an examination which nearly all patients most properly feel. Many valuable hints in regard to the necessity of giving careful attention to the history of the case and of reassuring the patient before an examination is suggested, together with a few most practical points upon the more common diseases of the rectum, are given by L. H. ADLER, JR. (*N. Y. Med. Jour.*, Dec. 30, 1899). He most strenuously insists upon the desirability of a local examination before a diagnosis is ventured and most certainly before treatment is begun. To illustrate his remarks he quotes from Dr. Charles B. Kelsey, who says, "In my own practise I am guided by the simple rule that patients, male or female, who have not yet come to the point which makes them willing to submit to an examination, have not yet reached a point which admits of treatment."

With reference to proctitis and periproctitis considerable stress is laid upon the tendency toward suppuration, which is so often followed by fistula and requires free incisions of the affected parts. In cases of fistula the internal opening is to be found in most cases between the two sphincter muscles and not, where most practitioners seek it, higher in the rectum. The injection

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of a colored solution, such as milk or potassium permanganate, may assist in the location of the internal opening. Simple cases of fistula may be operated on with very little pain by the use of cocain or eucain and the patient need not be confined to bed. Fissure of the anus gives such characteristic symptoms of severe pain during and especially immediately after defecation that a diagnosis can usually be made, but an examination should always be made. The best medical treatment consists in the use of iodoform, preferably in the form of a 10-grain suppository, of which one should be carefully inserted into the rectum half an hour before an expected movement and another immediately after the passage has occurred. Hemorrhoids do not always require operative treatment. In the formative stage frequent ablutions of the part with cold water will allay, if not abort, inflammatory tendencies of the veins which otherwise lead to piles. Acute inflammation is not a contra-indication to operation when the case demands such a measure. Furthermore the consent of a patient can be more readily obtained while suffering, and external hemorrhoids may be painlessly removed with an alleviation of all the symptoms. The correct way of ascertaining the presence of a benign growth, such as a polypus, is to carry the finger well up the bowel away from the side to be explored, and then, by steady pressure, to sweep the finger downward, continuing this procedure all around the bowel. In this way a polypus, if present, will be caught between the finger and the wall of the rectum.

Treatment of Tubercular Glands.—W. W. CHEYNE (*Lancet*, Dec. 16, 1899) has come to the conclusion that tuberculosis of the cervical glands may be due to direct infection with bacilli entering them through the throat or some other organ. In many cases, however, trouble with the teeth, tonsils, etc., leads to an acute infection of the glands which, when it subsides, leaves them in a weakened condition. In consequence they form favorable soil for the growth of tubercle bacilli brought to them by the blood. In a similar manner tuberculosis develops in a joint which has been weakened by a sprain Tuberculous cervical glands may be considered under five heads. There may be a number of small hard glands which show no tendency to become softened or to mat together. Patients in this condition should be kept in good hygienic surroundings and treated medicinally. The glands may grow to such an extent that they cause a great deformity. This condition is usually bilateral. It may last for a long time without the occurrence of suppuration or the matting together of the glands. Such glands when removed generally contain caseous patches or calcareous nodules. Hygienic treatment has little effect upon glands in this condition, and a free incision should be made and all the affected glands removed as early as possible. The third type of cervical tubercular adenitis is one in which one or more glands grow rapidly, suppurate, and become matted together. If left to themselves their pus breaks through the skin. The neck of a patient in this condition presents numerous abscesses and ulcers. Incision of a suppurating gland, followed by a scraping away of its contents, is an unsatisfactory procedure, since other glands remain and rapidly enlarge and suppurate. As in the former class of cases a wide incision should be made and all the enlarged glands removed. The teeth, tonsils, etc., of the patient should be examined and treated if necessary. In a fourth class of cases suppuration remains limited to one or possibly two glands; it goes on until the gland substance has been entirely destroyed. The condition is then that of an abscess, usually limited to the gland capsule, and therefore beneath the deep fascia. If this is the case it should be entirely excised. Before it breaks through the fascia, its own substance has usually been completely destroyed. Hence the abscess may be opened and its cavity cleaned out, scraped and injected with iodoform and glycerin emulsion. A fifth condition in which such patients present themselves is one in which there are one or more sinuses leading down to remnants of gland structure. Such sinuses are themselves of a tubercular character and if possible they should be thoroughly excised. If this is not feasible each sinus should be scraped and swabbed with pure carbolic acid.

The situation in which the glands are most commonly affected is the anterior triangle of the neck. If recurrence is to be avoided it is necessary not only to remove all fat and glandular substance, leaving the vessels and muscles clean, but also to pull aside the sternomastoid in order to remove the fat and glands beneath it. The operation is simplified if in its very beginning the internal jugular vein is exposed at the lower part, it can then be avoided while the affected tissue is dissected away from it. If the glands have suppurated and are closely attached to the vein, the operator need not hesitate to divide it between ligatures and remove it. In working beneath the sternomastoid muscle care should be taken not to injure the spinal accessory nerve. The best plan is to turn back the muscle and expose the nerve in its upper portion, or else to divide the muscle. The glands may then be dissected away from its under surface, both above and below the nerve. If the operator proceeds in this methodical way recurrences in the anterior triangle will rarely take place.

Uterine Scrapings and Diagnosis of Cancer.—Pain, discharge, and hemorrhage were considered formerly to be the characteristic symptoms of cancer of the uterus. To try to make an early diagnosis from these symptoms J. WIENER (*Am. Jour. of Obstet.*, Dec., 1899) thinks would be impossible and dangerous. He says there are no symptoms that are pathognomonic of cancer of the uterus. Of these three symptoms, pain is of least value, as it does not occur until late in the disease. When discharge is present in the early

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stages it is not due to the new growth, but to a pre-existing endometritis. Hemorrhage is a more valuable aid in that it arouses our suspicions—it cannot do more, but it should do that, especially at the time of the menopause. Many times the menopause is held responsible for symptoms which are in reality due to a beginning malignant growth. Wiener thinks that we are too apt to look for the disease in older women and to overlook it in younger. He cites statistics which show that the disease occurs between the ages of twenty-one and forty-five in 62.4 per cent. of 705 cases. Endometritis is a very important factor in the etiology. The methods which will help us to reach a diagnosis are inspection and palpation, dilatation of the uterine canal and introduction of the finger, and microscopical examination of uterine scrapings. Inspection and palpation do not tell of the character of a growth even if we succeed in seeing or feeling one. Introduction of the finger into the dilated uterine canal will only allow one to feel an ulceration or a new growth, and simply suggests the part to scrape most thoroughly. Microscopical examination of uterine scrapings is the only reliable way of making an early diagnosis of uterine cancer. A differential diagnosis must not be made from the scrapings between uterine cancer and endometritis, glandular or interstitial, necrotic myomata, polypi, placenta retenta, and abortion. Wiener refers to statistics in which out of 58 cases of hysterectomy for uterine cancer, 41 were diagnosed solely from the microscopical examination of the uterine scrapings, and the diagnosis confirmed. He also presents four cases of his own in which an early diagnosis was made from scrapings of the uterus. Therefore, from his own experience and from cases cited, he concludes that cancer of the uterus should be diagnosed with the microscope, that it should be suspected at all ages—in virgins, in nulliparæ, as well as in multiparæ—and that a typical hemorrhage should always arouse suspicion, even at the time of the menopause. With early diagnosis and early operations, the mortality due to malignant disease of the uterus would be much lowered. Sixteen illustrations accompany the article.

A New Infusion Mixture.—It is well known that the addition of calcium and other salts to isotonic solutions favorably influences the heart's action, but it is less readily recognized that an ideal infusion mixture should contain among its constituents a substance capable of binding the carbon dioxid which has accumulated in the remaining blood. Normally this is accomplished by the presence of an alkaline globulin compound in the circulatory blood, which, in the presence of carbon dioxid, splits up with the formation of an alkaline carbonate and free globulin. It is not likely that these unstable compounds will maintain their integrity during the process of transfusion of blood from one individual to another; quite to the contrary, it is probable that the heart is still further weakened by this procedure due to the potassium salts which are liberated by the breaking down of blood-corpuscles which always occurs here. A. SCHIEKING (*Thera. Monatsh.*, Dec., 1899) states that it may be impossible to artificially reproduce the complex globulin compounds, but he has found in sodium saccharate a valuable drug which seems to possess all the properties of the former. This salt is a gelatinous, freely soluble, bitter chemical, which in the presence of carbon dioxid forms sodium carbonate and sugar, thus binding the gas. The clinical use of this body has fully borne out the expectations which such experiments as the reanimation of apparently dead hearts of frogs and also of warm-blooded animals permitted the author to hope for. No deleterious effects were ever noticed, and good results have been seen even where the use of the usual salt solution failed to improve the patient. A solution containing 0.03 per cent. of the compound with 0.7 per cent. sodium chlorid is recommended, but care must be taken that the mixture contains neither free sodium hydrate nor sugar. The internal use of the saccharate is also advised in all cases where alkalies were formerly employed.

Treatment of the Initial Lesion of Syphilis.—When excision or destruction by other means is not feasible, the following methods may be employed according to the location of the lesion:

1. Within the vagina or at the portio vaginalis. Apply mercurial ointment on cylindrical or round cotton pads to which a thread is attached to facilitate removal. In pregnant woman no pad, however small, should be introduced, but rather a suppository made as follows:

℞ Ung. hydrarg.....gr. lxxv
Ol. theobrom.....3 ii ss.

M. Ft. suppos. No. X. Sig. Insert in vagina.

Or the lesion may be painted with one of the following solutions:

A.

℞ Hydrarg. chlor. corros.....gr. ¾—iii
Spiritus..... } aa.....3 ii ss.
Aetheris sulph. }

M. Sig. External use.

B.

℞ Hydr. chlor. corros.....gr.. ⅓—iii
Collodii..... } .....3 ii ss
Aetheris sulph. }
Ol. olivæ.....m. iii.

M. Sig. External use.

2. On the buccal mucous membrane, tonsils, etc. Paint with the alcoholic-etheral solution of corrosive sublimate given above.

3. On the skin, or at the junction of skin and mucous membrane (lips, alæ nasi, female genitals, etc.). Cover the lesion with a piece of gray plaster, making it fit as smoothly as possible by means of incisions in its edge. Let it extend well over the border of the lesion. The renewal of the plaster should depend on the amount of secretion. The induration clears up rapidly, while ulcerations and erosions heal most satisfactorily by this method.—Lang, "XX. Century Practice."

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SATURDAY, JANUARY 6, 1900.

THE PAST YEAR'S ADVANCES IN MEDICINE AND SURGERY.

ONE of the striking features of the past year is the position that surgery has taken in the treatment of diseases of the gall-bladder and gall-ducts. These affections have been wont to run a most uncertain and unsatisfactory course under medicinal management, and it has now become clear that early operative intervention is destined to take them out of the physician's hands. Expectant treatment for gall-stones, once it has become manifest that the attacks of pain are recurring, will soon be a thing of the past.

In the treatment of intestinal obstruction and intussusception surgery has also asserted itself, and operation within the first twenty-four hours after diagnosis, or as soon as it is clear that medical measures fail to give relief, is henceforth to be the indication. In cases of typhoid perforation, operative interference as soon as the diagnosis is established has been emphasized, during the past year, as the only justifiable rule of procedure.

Two successful methods of treatment seem worthy of particular mention in the review of the year. Pagenstecher reported a case of stab-wound of the left ventricle of the heart, in which, twenty-four hours after its infliction, he successfully inserted four sutures. The three deep sutures penetrated the entire thickness of the heart muscle, leaving only the endocardium intact. It was with the greatest difficulty that the uppermost suture could be inserted, because its site was not visible except when the heart raised itself up and twisted on its axis during systole. The manipulations necessary for the insertion of the sutures did not perceptibly disturb the heart's rhythm or action. This is the tenth case of active surgical interference in wounds of the heart, and six of them have been successful. The mortality of these cases under expectant treatment was from 80 to 90 per cent. The second notable success was the cure of four cases of volvulus, with all the classical symptoms of that affection, by the simple method of having the patient, while maintaining as nearly as possible a horizontal position, roll over in bed. The attempt to turn, if made in the direction of the twist in the intestine, is followed by immediate increase of pain, while even a partial turn in the opposite direction brings relief, and several turns untwist the ileus completely, with absolute cessation of symptoms.

In medicine the notable event of the year has been the definite determination that a special form of mosquito is the host and the carrier of malarial infection. It is evident that the discoveries in this line are soon to bear abundant fruit in the prophylaxis against the disease and its ultimate eradication from infected regions. In general the advance of civilized nations into the tropics has led to a great increase of knowledge of tropical diseases. England and Germany, as well as our own country, have taken a commendable interest in this work, and it is evident that the question of the habitability of the tropics by white men is soon to be settled in the affirmative.

Progress in general medicine has been more along the line of better appreciation of details than distinguished by any single noteworthy advance. Improvements even in such old-fashioned diagnostic methods as inspection and palpation are not wanting. The shadow that the diaphragm makes on the chest-wall in thin people and the corresponding shadow of the abdomen made by a dilated and partially filled stomach, under similar conditions, have become significant features of physical diagnosis. The percussion of the vertebral spine is now made to convey valuable information for the solution of such difficult diagnostic problems as aneurism, enlargement of the intra-thoracic glands, and mediastinal tumors. The

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vertebræ act excellently as pleximeters. The use of certain organs as the spleen and liver as pleximeters in percussion, to elicit information from beneath them, has also developed, and promises to be of value.

In some directions physicians have been undoing the work of too hasty conclusions. The resistive vitality of the individual rather than the virulence of microbes is now recognized as the determining factor in the course of disease. The claims of discoverers of the specific germ of rheumatism have brought out more clearly than ever that in even simple acute rheumatism there is present not a single entity, but a series of pathological conditions due to many causes. The fact that contributions of the great body of the profession rather than that of a single genius have influenced medicine during the past year, is a matter for congratulation. It is well known that gradual progress made all along the line is more effective in permanent advance than sudden bounds which are apt to overleap the mark, leaving the future to discount unwarranted assumptions.

HORSELESS VEHICLES AND MUNICIPAL HEALTH.

IN what unexpected directions new inventions may be productive of important results, is frequently a matter of great surprise. Who could have foreseen that the introduction of gas as an illuminating agent would work a revolution in materia medica and therapeutics? Yet this has actually happened. The much-used, also much-abused, analgesics and antipyretics are mainly coal-tar derivatives obtained from a by-product.

Equally surprising will doubtless be the achievement of the horseless vehicle in its effect upon the healthfulness of cities. In an article in the December number of the *Automobile Magazine*, J. J. Walsh points out that there are certain diseases whose incidence in our great cities will greatly diminish as the results of the absence of the horse from city streets. Tetanus will very probably disappear completely. It is on horse fodder that the germ is introduced into cities and the principal sources of its dissemination are the intestinal discharges of the animal. With the elimination of the horse, therefore, will doubtless disappear also that dread disease.

There are certain indirect effects, moreover, which seem worthy of consideration. The disposing of horse droppings constitutes the principal work of the street-cleaning department and their absence will greatly simplify the cleaning of streets. Then with the advent of the horseless vehicles universally comes the rubber tire. This means absence of noise and freedom from its ceaseless wear and tear upon the nervous system.

From a sanitary point of view there is every reason for those who are interested in municipal health to encourage in every possible way the automobile movement. Accidents from the new motive power will undoubtedly occur. The foolish and careless will abuse a good thing despite every precaution. Mechanism will sometimes get out of order. It is not at all probable, however, that the accidents under a horseless régime will be comparable in frequency to the numerous casualties that happen now. There are therefore many reasons to rejoice that we shall soon inaugurate in our large cities the horseless era.

THE AMERICAN CIGARETTE.

AMONG the many lines of scientific inquiry that have been undertaken by the London *Lancet*, not the least important is its investigation into the subject of tobacco and its adulteration. Through its Analytical Sanitary Commission it has had this subject under consideration at successive intervals since the year 1853. Its report of that year was based on the analysis of a great number of samples of tobacco and cigars purchased from shops in London. The decision then reached was that there was no evidence to show that such adulteration as was discovered was of a kind to produce injury to health.

Since that date the cigarette has been introduced in every-day life, and in 1888 this same commission analyzed the chemical constituents found in the tobacco and the paper of cigarettes and reported that there was no trace of opium nor any unclassified alkaloid in the tobacco, not a trace of chlorid or arsenic in the paper, but that there was a faint trace of copper due to the metallic lettering on the paper wrapper. The exaggerated statements concerning the adulteration of cigarettes and the poisonous constituents of the paper continue unabated, and a more recent investigation of cigarettes purchased in New York and the same brands of cigarettes sold in London has been made by the same commission. The results of this last investigation are published in the issue of the *Lancet* of December 9th as follows: "As a matter of fact, the results in both cases show no foundation whatever for the exaggerated statements that have been made. Foreign toxic substances

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were not found in a single instance; amongst those looked for both in the paper wrapper and in the tobacco were morphia, phosphorus, arsenic, mercury, copper, and other heavy metals. The only evidence of a metal being present was in the case of copper in the paper. The quantity present was so excessively minute as to put any question of its being injurious beyond consideration. To sum up, there is not a single feature in these numerous results upon which can be fairly based any allegation of the presence of a substance producing injury to health."

It seems from this that the injurious effects of cigarette smoking result from the excessive or premature use of them. The almost constant custom among cigarette-smokers of drawing the smoke into the lungs may also be mentioned in this connection, although the commission says that it is doubtful whether any nicotine ever reaches the mouth of the smoker except that present in the moistened tobacco which is in contact with the lips. The smoke products of tobacco do not contain any important quantity of nicotine. There are toxic bodies, however, in the smoke. These are related to that interesting series of organic bases known to chemists as pyridines, but about which not much is at present known.

ECHOES AND NEWS.

NEW YORK.

Bellevue Park Completed.—The yard of Bellevue Hospital has been changed into a park, which was opened on December 23d by the playing of a spouting fountain of quite splendid proportions.

New St. John's Hospital.—The new St. John's Hospital, at Twelfth street and Jackson avenue, Long Island City, will be consecrated and will have its doors thrown open on January 7th. This hospital, which is under the direction of the Sisters of St. Joseph, will accommodate over 200 patients.

Dr. Weir a Delegate to the International Congress.—Dr. Robert F. Weir, President of the American Surgical Association, has been appointed by the Secretary of State one of the delegates of the United States Government to the Thirteenth International Congress of Medicine to to be held at Paris, August 2 to 9, 1900.

Doctor a Morphin Victim.—Dr. Edward M. Bangs, forty years of age, a guest of the Cosmopolitan Hotel, was committed to Bellevue Hospital on December 29th to have his sanity determined. He was found on reception to be a victim of the morphin habit. Dr. Bangs is not a resident of this city. His home is not known.

Busy Day for Ambulance Surgeons.—New Year's day was a very busy one in the ambulance department at Bellevue Hospital. Fifty-six calls were answered. This is the heaviest day's work since the summer of 1896, when so many people were prostrated by the heat. At that time 154 calls were answered one day and 101 another day by the Bellevue surgeons.

A Nurse's Funeral.—Miss Margaret Alice Burr, twenty-five years of age, a nurse in the City Hospital on Blackwell's Island, died there on December 23d. Her body was taken to her home in Troy. The hospital internes and Miss Burr's thirty companions, the latter in their uniforms, marched to the Island dock and stood uncovered until the boat conveying the body was in mid-stream.

Priest as an Ambulance.—A negro painter, while at work on a new building on Elton avenue, fell three stories to the ground and sustained several fractures. A crowd gathered but nothing was done to help the injured man until Father Murphy, a Catholic priest, came along. He took the man on his shoulders and carried him seven blocks to a drug-store, whence he called up an ambulance from Fordham Hospital.

Contagious Diseases.—The Health Department submits the following report for the week ending December 30, 1899: Measles, 450 cases and 20 deaths; diphtheria, 257 cases and 46 deaths; laryngeal diphtheria (croup), 10 cases and 7 deaths; scarlet fever, 154 cases and 17 deaths; chicken-pox, 28 cases; tuberculosis, 105 cases and 142 deaths; typhoid fever, 33 cases and 13 deaths; cerebrospinal meningitis, 5 deaths. Totals, 1037 cases and 250 deaths.

The Post-Graduate Hospital.—The fifteenth annual report of the Post-Graduate Hospital states that 1617 free patients were treated as in-patients and were given 38,313 days of care. The whole number of patients was 2688, and 1447 patients were visited in their homes, without charge. There was free home attendance in 368 obstetric cases. An account of the hospital's work on the East Side is given, and an appeal is made for the endowment of the laboratory and the lying-in department.

The Academy of Medicine.—The Treasurer's report of the New York Academy of Medicine for the year ending December 15, 1899, has been published. The report certainly shows a most flourishing condition financially. The report of the trustees shows an indebtedness on the building of $2000.00. Since the Treasurer's account was audited, however, Fellows have subscribed an amount sufficient to meet this outstanding note and the institution, therefore, begins the new year free from debt.

Alcoholism and Traumatism.—A Brooklyn policeman recently found a man in a helpless con-

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dition in Atlantic avenue. The surgeon who was summoned made the diagnosis of acute alcoholism. The man was taken to the police station, where he lay until next morning, when the police, not being able to arouse him, again summoned the ambulance. This time the surgeon diagnosed a fractured skull. A number of similar cases have occurred in Brooklyn of late. They occur much too frequently in a great many places.

Brooklyn Hospital Surrenders.—Negotiations are in progress for the transfer of the Brooklyn Homeopathic Hospital, Dispensary, and Training School for Nurses, by the trustees, to the city authorities. It is expected that the control shall rest in the city along with the actual property and obligations of the institution, and that in return the city shall agree to maintain it under the homeopathic system. The property is worth about $150,000, and there are obligations amounting to $60,000. The hospital was organized in 1852.

Death of Dr. Winston.—Dr. Gustavus S. Winston, son of the late Frederick S. Winston, who was for many years President of the Mutual Life Insurance Company, died on December 29th from apoplexy. He was sixty-six years old. He was a graduate of Columbia and of the College of Physicians and Surgeons. In the Civil War he was surgeon of the Eighth Regiment. Having been captured and confined in Libby Prison, he escaped through friends of the Winston family, who, although Southerners, sympathized with the North. Dr. Winston was for about twenty-five years one of the medical directors of the Mutual Life Insurance Company, and for the greater part of that time was its chief director. He was a member of a number of clubs, a charter member of several medical societies, and a Fellow of the New York Academy of Medicine. He was Visiting Physician to St. Francis Hospital.

St. Bartholomew's Year Book.—The year book of the Parish of St. Bartholomew was issued on December 29th. The receipts during the year were upward of $208,000 and the expenditures were $207,729.90. The charities of the parish include the clinic, the employment bureau, the loan bureau, the penny provident fund, the kindergarten, the tailor shop, and the fresh-air fund. Through one or another of the many benevolent agencies incorporated within this parish hundreds of persons have been aided during the past year in securing food and work. This book affords an opportunity to contrast church work as it was in the past and as it is in the present day. Formerly, the spiritual welfare of the parishioner and his preparation for a future life were alone considered. Nowadays a large, perhaps the largest, part of the work of a great church in a large city seems to lie in the direction of improving humankind as regards material conditions and during the present life. Two of the most faithful and most earnest workers in the parish, Cornelius Vanderbilt and William H. Appleton, have died during the past year.

State Care of Consumptives.—Since the adjournment of the last Legislature at Albany a special committee of the State Board of Charities, composed of Commissioners Harvey W. Putnam of Buffalo, Enoch V. Stoddard of Rochester, and Dr. Stephen Smith of New York City, has been considering the establishment of State hospitals for consumptives and the promulgation by the State Board of Health of regulations which will tend to prevent the spread of tuberculosis. The committee will submit its report to the State Board of Charities some time during this month. The committee will recommend that every locality able to have a hospital for consumptives should have one, and that the State should erect and maintain one or more hospitals where localities unable to maintain local hospitals might send their patients and pay for their care and maintenance. It will also recommend that local boards of health should have more power in dealing with consumption; that it should be declared to be a contagious disease, and that the boards of health should have power to establish rules and regulations to protect the public from contagion.

CHICAGO.

Examinations for Medical Inspectorships.—The Civil-Service Commission recently completed the returns of the examination for positions as medical inspectors in the Chicago public schools. Of the 250 physicians who took the examination, 93 failed to secure the required standing. Many of these were old, gray-haired, and experienced physicians.

Many Criminals Convicted.—States Attorney Deneen reports that the year 1899 has been an unusually busy one in his office from the standpoint of criminology. There were 6911 cases on the docket and 4278 disposed of, there being 3117 convictions; there were 219 acquittals, and 150 defendants were found not guilty by the court, while 93 cases were nolled, and 45 were nolled by request of the prosecuting witness.

Examination of Osteopaths.—On December 29, 1899, the Illinois State Board of Health conducted a special examination for licenses to practise in Illinois as osteopaths. The class numbered thirty-four, most of whom were students of the American School of Osteopathy at Kirkville, Mo. The branches in which they were required to pass a satisfactory examination were anatomy, physiology, chemistry, histology, pathology, and hygiene.

Consumptive Hospital in Chicago.—The Citizens' Committee, which has taken the initiative for the erection of a $150,000 hospital for consumptives, under the auspices of the Sisters of St. Elizabeth's Hospital, has received assurances during the last week that their plans will have the

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support of the physicians of Chicago. The physicians favor the hospital not only for the care of the afflicted, but also for the protection of the public from infection.

Treatment of Tuberculosis.—Professor Edwin Klebs read a paper on this subject before the Chicago Society of Internal Medicine, December 28th, in which he discussed the specific treatment by products of tubercle bacillus to reenforce the probably insufficient natural defenses of the body. He dwelt upon the action of tuberculin R. and tuberculocidin. He pointed out the insufficiency of specific treatment in tubercular persons with secondary infection. He said that achylia gastrica and thyroid atrophy were the effects of the action of tubercular toxins, and advanced experimental and clinical proofs.

Cerebellar Tumor.—Dr. D. A. K. Steele reported an interesting case upon which he had operated. The patient, a male, was thirteen years of age. After numerous skiagraphs had been taken it was thought the tumor was located in the left frontal convolution. As the condition of the boy was growing worse, and he was having involuntary evacuations from the bladder and bowels, and racking headaches, the left frontal lobe was trephined to relieve the intracranial pressure. The specialists who had examined the boy thought the data were insufficient to localize the tumor. In Dr. Steele's opinion no operation for the removal of the supposed cerebellar tumor was justifiable, as the boy was not expected to live and the recovery of such patients operated on for cerebellar tumor is unsatisfactory. However, the patient was subsequently operated upon, and a cerebellar tumor found on the left side instead of the right, as diagnosticated, it being situated in the left hemisphere of the cerebellum. The patient died forty hours after operation. The dimensions of the tumor were two inches in width, one and one-quarter inches in length, and one and one-half inches in its vertical diameter. It was situated close to the median line and pushed the right and middle lobes of the cerebellum to the right. Sections showed the typical structure of a glioma.

Medical Practise Act in Illinois.—On November 25th, Judge Tuthill announced a ruling holding that the State Board of Health of Illinois, under the Act of 1899, relating to the regulations of the practise of medicine in the State, has no authority to inquire into the actions of medical men who have received certificates entitling them to practise medicine in the State prior to the passage of the 1899 act, which went into effect July 1st. The interpretation of the law was made on the issuance of an injunction to restrain the State Board of Health from proceeding further in the steps taken by it to revoke the certificate of Dr. W. Frank Ross of Champaign, who was summoned before the Board to answer charges of unprofessional conduct made against him. The injunction petition filed by Ross stated that he was actively engaged in the practise of his profession in Champaign, and that the revocation of his certificate would be a serious injury to him. Attorney Allen, in behalf of Ross, contended that the 1899 statute, entitled "An Act to Regulate the Practise of Medicine in the State of Illinois," completely repealed all prior acts and by its express provisions limited the power of the board to only inquire into and revoke such licenses as would be issued after its passage. The State Board of Health by Attorney Cope argued to the court that the law should be construed in the light of the intention of the Legislature as expressed by all the acts passed on the question.

Vesicorectal Anastomosis.—Dr. Jacob Frank made a further report on vesicorectal anastomosis for the relief of exstrophy of the bladder and other pathologic conditions. He presented the gross specimen with the results of the bacteriologic and microscopic examinations made for him by Dr. Herzog of the dog killed before the meeting, held November 22, 1899. The external operation wound in the median line of the abdominal wall was completely healed. On opening the abdominal cavity the peritoneum, including the omentum, and all the abdominal structures appeared normal and free from any inflammatory change or reaction. The anastomosis between the bladder and rectum was firm and covered by a smooth, normal peritoneum. Before the anastomosis was examined any further, except for inspection *in situ*, the kidneys were lifted out of their position and inoculations were made from the pelvis of each kidney into glycerid agar tubes in the usual manner. The ureters on both sides were then resected loose down to their insertion into the bladder. The kidneys and ureters were normal in color and size. The kidney substance, on being brought to view by a median incision into the organ, was found to be normal. The anastomosed bladder and rectum on being removed were found to be normal. The bladder was very firmly contracted to its maximum. The mucous membrane of both bladder and rectum looked perfectly normal. The opening between bladder and rectum was small. The tissues which formed it were corrugated and perfectly normal in appearance. All the other organs of the animal were normal. The four test-tubes inoculated from the pelvis of the kidneys were kept in the brood-oven at blood temperature for six days; they remained absolutely sterile, and no growth of any kind developed. Histologic examination of the tissue of the cortex, as well as of the medulla of both kidneys, showed it to be normal. The pelvis of the kidney on either side was lined with normal epithelium. The subepithelial tissue of the pelvis showed a moderate amount of round-cell infiltration. The cells forming this infiltration were of the type of young connective-tissue cells and lymphocytes. Polynuclear leucocytes were not seen in the subepithelial tissue. Bacteria of no kind could be demonstrated either in the pelvis, the medulla, or the cortex of the kid-

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neys. From the result of the microscopic, histologic, and bacteriologic examination, this dog was free from any infection of the kidneys and was to all appearances in perfect health.

GENERAL.

Students at Berlin.—At the Berlin University there are registered this winter 6478 students. This is the largest number ever assembled at a German university. Of the whole number 1346 are students of medicine.

Famine in India.—The present famine in Western India is destined to be far more disastrous than that of two years ago. The plague has already begun now, and the epidemic, going hand in hand with the famine, is destined to work distressing ravages.

$100,000 to Study Cancer.—By the will of Caroline Brewer Croft, who died in England nearly two years ago, a sum amounting to nearly $100,000 has been placed in the hands of the corporation of Harvard University, to be used in the investigation of cancer.

Smallpox among Indians.—There are serious epidemics of smallpox among the Indians in the Indian Territory, at Crow Creek Agency in South Dakota, and on other reservations. The Department of Interior at Washington has been telegraphed to from a number of agencies to forward vaccine points, but it is confronted by a lack of funds.

Extraction of Foreign Body from Bronchus.—It is reported that Dr. Schroetter of Vienna extracted, without cocain or other anesthetics, a piece of lead from a bronchus. The lead was located by means of the X-rays at the height of the fourth rib. A Kilian's bronchoscope was inserted and electrically lighted, and by the aid of this the lead was extracted with a specially constructed pincette.

Responsibility in Appendicitis.—C. Mansell Moullin, in a recent communication to the *Lancet*, delivered himself of the following ultimatum: "If in a case of inflamed appendix thirty-six hours have passed without definite improvement having shown itself, the responsibility for the consequences must, it seems to me, rest with those who recommend that an operation should not be performed."

Whisky in the United Kingdom.—The consumption of whisky during the year 1898 was the highest ever reached in the United Kingdom, according to the English temperance journals, being more than a gallon a head for every man, woman, and child. Compared with 1878, there has been an increase in deaths from chronic alcoholism of 82½ per cent. among men and of 145½ per cent. among women.

Mountain Toothache.—"Mountain toothache" or "jumping toothache" seems prevalent among the engineers and laborers on the Jungfrau Railroad, at a height of 8500 feet above sea-level. Several teeth are affected at a time, the attack lasts seven or eight days, and leaves the patient with a swollen face, which it takes another week to reduce. After that the teeth are acclimated and give no further trouble.

Favorable Opening for a Physician.—Opportunities now and then arise where the needed change of climate can be had by a physician without the sacrifice of time. A case of this kind has come to our knowledge in which a practitioner from the East, whose friends would deem it a privilege to send him patients, can make for himself a permanent or temporary home in Southern California, under the most attractive circumstances.

Plague at Manila.—Health officers have discovered within the walled city a native with pronounced symptoms of bubonic plague in a house in which two suspicious deaths have occurred. Active steps have been taken to prevent the spread of the disease. Secretary Root, after consultation with Surgeon-General Wyman, has decided to consign to the Marine Hospital Service the conduct of all quarantine matters relating to the army.

Hemorrhage through the Lachrymal Duct.—A case is reported in the recent issue of the *British Medical Journal* of a soldier suffering from Malta fever, who was attacked with severe epistaxis. After the ineffectual application of mild remedies, the nares were securely plugged; blood then appeared in each lower eyelid and trickled down the patient's cheeks, so great was the pressure and so little did the blood possess the power of coagulability.

The London School of Tropical Medicine.—The *British Medical Journal* regards the first season of the London School of Tropical Medicine as very successful. The number of students was twenty-eight; of these, fourteen were medical officers of the colonial service, the remaining fourteen being medical officers of the army and navy, or surgeons to railways, mines, etc., in the tropics. One student came from Germany and another from Belgium.

Dr. Osborne Acquitted.—Dr. Oliver T. Osborne, Professor of Materia Medica and Therapeutics in the Yale Medical School, was tried in New Haven on December 26th, on the charge of unlawfully disinterring a body. The doctor was acquitted. In rendering his decision Judge Studley stated that there was no question, from the evidence presented, that the doctor had been given permission to perform an autopsy upon the body in question.

McGill University.—At the regular monthly meeting of the corporation of McGill University at Montreal, on December 21st, it was decided to establish special courses in connection with the departments of legal medicine and public health and also a post-graduate course in sanitary state

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medicine, adequate in both quality and scope to afford upon examination a diploma in public health corresponding to the diploma of public health of England or English universities.

Iowa Insane Asylum Scandals.—The Iowa State Board of Control, which is required by law to investigate the insane asylums in that State, has reported a deplorable condition of affairs in nearly thirty counties. Men and women are in some asylums indiscriminately herded together and no expert care or medical attendance is afforded them. The exposé of these conditions will no doubt bring about legislation abolishing county asylums and compelling the maintenance of insane persons in State institutions.

The Gold Cure Outrivaled.—Paris had hardly recovered from the sensation caused by Professor Metchnikoff's "discovery" of a new elixir of life, when it was announced on December 29th that Dr. Rappalier and Dr. Thiebault had found a "drink cure" in a serum extracted from a horse which (so the lay press states) had been previously alcoholized artificially. This serum, it is claimed, will produce in a patient an unconquerable distaste for alcohol. The Academy of Medicine of Paris has appointed a committee of investigation.

Proportion of Killed to Wounded.—During the three engagements that the forces of Lord Methuen have had in South Africa, the proportion of killed and wounded was approximately 1 to 5.3. This proportion is considerably below the average of previous campaigns, and is almost identical with the loss sustained by the Germans in the Franco-Prussian campaign of 1870-'71. What the proportion of killed and wounded among the Boers may be is not known. The Boers are using the Mauser rifle and the British are provided with the Lee-Metford.

Western Surgical and Gynecological Association.—At a meeting, held at Des Moines, Ia., December 27th and 28th, this association elected the following officers for the ensuing year: President, Dr. O. Beverly Campbell of St. Joseph, Mo.; first vice-president, Dr. A. C. Bernays of St. Louis, Mo.; second vice-president, Dr. J. R. Hollowbush of Rock Island, Ill.; secretary-treasurer, Dr. George H. Simmons of Chicago, Ill. Minneapolis, Minn., was selected as the place for holding the next annual meeting. Chairman of the Committee of Arrangements, Dr. A. W. Abbott.

Venereal Disease in the British Army.—A correspondent of the *Lancet* writes from South Africa: "I am sorry to say that the transports are dropping a lot of sick on arrival here, most reservists; and in some cases specific disease, acquired while in India or elsewhere, when serving with the colors, is very much in evidence. It is brought very much to notice that terrible ravages are made amongst the men by this dreadful disease, and the trouble is greatly accentuated when it becomes absolutely necessary to admit them to a hospital for treatment instead of getting them to the front as soon as possible."

Failure of Lustig's Plague Serum.—News comes from India that Lustig's plague serum has been well tested and the series of cases give no indication that the remedy has any efficacy. In this connection it is interesting to note that Dr. Guido Bacelli, demonstrator of public instruction at Rome, has been directing a series of experiments upon animals in which he claims to have established the fact that intravenous injections of bichlorid of mercury is a specific against bubonic plague. Professor Terni of the University of Massina has sent out to Portugal and Brazil to make known the result of these experiments with a view to adopting the treatment in the human subject.

Testaments and Tobacco.—It is curious how rapidly the medical and scientific side of the campaign against tobacco in all its forms appears to be subsiding. This is amusingly illustrated by the fact that first upon all the lists of comforts for the wounded supplied by the various funds in Great Britain come cigarettes and tobacco and pipes. Even the Red Cross Society has gone so far as to have special brands of cigarettes and makes of pipes prepared and stamped with its sacred emblem. And not a single medical or even clerical voice is raised in protest. Even the clergy are becoming positively friendly to the weed and one cheery evangelical sent to the Red Cross Society a large consignment of *Testaments and tobacco,* in about equal parts.

The Plague at Honolulu.—The transport "Centennial," arriving from Honolulu at San Francisco, December 28th, and the steamship "Aorangi," arriving at Victoria, B. C., the same date, reported the presence of the bubonic plague in the Hawaiian Islands. The outbreak occurred at Honolulu amongst the coolies recently arrived from Japan. Two to five cases terminated fatally. The Board of Health called for $10,000 to fight the plague, and immediately $25,000 was placed at its disposal. A system of fumigation was undertaken, the dead were cremated, and quarantine established. Later advices announce the death of a young girl from the plague, and the occurrence in opposite sections of the city of two cases of the disease in Chinamen. Honolulu is declared by the quarantine authorities an infected port. No ship leaving there can carry a clean bill of health. None of the army transports will be allowed to stop at Honolulu until quarantine is raised.

Death of Sir James Paget.—Sir James Paget, one of the most famous English surgeons of the century, died in London on December 30th. He was eighty-six years old. In 1836 he became a member of the Royal College of Surgeons, and in 1843 was made an honorary Fellow of that institution. Sir James made many contributions to science, among which are the "Pathological Catalogue of the Museum of the College of Sur-

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geons," "Report on the Results of the Use of the Microscope," and "Lectures on Surgical Pathology." He contributed frequently to the "Transactions" of the Royal Society, of which he was a Fellow, and of other scientific bodies. In 1875 he was elected President of the Royal College of Surgeons, and from 1884 to 1895 was Vice-Chancellor of the University of London. Many other honors were accorded him during his lifetime. In 1871, in recognition of his humanitarian work and of his many discoveries in surgery, he was created a baronet.

The St. John's Ambulance Brigade.—This "first-aid" organization is responding nobly to calls for volunteers for South Africa. The first call for twenty-three men was responded to early in November. The second call for fifty-three men was responded to in *three days,* and the men embarked at once, and a third call for twenty-eight men was filled in five days. The first detachment was for service on board the Princess of Wales hospital ship, and the last for the Duke of Portland's Hospital. The English profession is keenly interested in St. John's Brigade, as the bulk of the instruction which its members receive is in the form of courses of lectures given by the leading practitioners of the various localities in which branches exist, and this means practically the whole of England. These "first-aid" lectures have been gladly given by medical men, and have proved an excellent means of giving the young people of the community a knowledge of the main principles of hygiene and nursing, and a slight practical conception of what scientific medicine, as distinguished from miracle-working charlatanism, really is.

Scientists Convene at Yale.—Many well-known scientific men, members of ten American associations, arrived at New Haven on December 26th from various parts of the United States. Some of the visitors were from Europe. Among the societies which met were the American Chemical Society, the Association of American Anatomists, the American Physiological Society, the American Psychological Association, the Anthropological Society, and the Society of College Gymnastic Directors. Among the less severely scientific papers presented was one by Dr. Jay W. Seaver of the Yale Gymnasium, on a comparison in anthropometry between the types of three women's colleges. Dr. Seaver announced that there are two distinct types of the American college girl, that of the East having the greater height and a "cutter" build of head and that of the West having much the greater girth of chest and larger lung capacity, with a "schooner" build of cranium. Dr. Seaver's paper elicited warm discussion, through which the writer's hopelessly soulless and unemotional temperament was made evident. Two very important papers from the medical man's viewpoint were read by Professors T. D. Aldrich of Detroit and Scripture of Yale. The former described a new anesthetic, chlorentone, a compound from chloroform and acetone, which can be administered internally. Professor Scripture reported progress in producing anesthesia by electricity. It is possible by this invention in its present stage to deaden sense so that pins may be inserted in the flesh without producing pain. The current has not yet been made effective in the presence of moisture, so as to make it available in dentistry.

Obituary.—In addition to the deaths of Sir James Paget and of Dr. Coues, several others have to be recorded. Dr. William B. Canfield, a resident of Baltimore, died in Roosevelt Hospital, in New York City, on December 26th, of a fractured skull, which injury he sustained by slipping on the sidewalk and striking his head against the curbstone. Dr. Canfield was forty-four years old.—Dr. Francis Bonynge died in Chicago on December 26th. He was wounded by the Boers in the famous Jameson raid, and served three months in Holloway jail because of his part in the affair.—Dr. Wickliffe Smith, surgeon of the 161st Indiana Regiment, was killed on December 29th, near Indianapolis, on account of the cold weather. He was muffled so that he did not hear an approaching train, and was struck and instantly killed. Dr. Smith was well known and greatly liked throughout Indiana.—Dr. Thomas C. O'Callaghan, one of the oldest physicians of Jersey City, died suddenly from apoplexy while visiting a patient on December 27th. He was born in Ireland in 1831. He was graduated from the New York College of Physicians and Surgeons in 1860.—The death of Dr. Frank Grover, a well-known physician of Newark, New Jersey, occurred on December 30th, under nearly similar circumstances. Dr. Grover was stricken with apoplexy while visiting a patient. He was removed to his home, where he died shortly afterward. He was fifty-five years old.—This very unusual obituary list closes with a notice of the death of Dr. Irwin R. Fisher, a prominent physician of Harlingen, New Jersey, who was found dead in his bed on the morning of December 31st. Death, which was due to natural causes, was ascribed by the county physician to "heart disease"—always a convenient diagnosis.

Influence of Lime on Malarious Soil.—M. Grellet, in a recent communication to the French Academy of Medicine, observes that up to the year 1840 malaria was rife among the inhabitants of Châtillon-sur-Loing; after that date it disappeared completely. Except in one particular no difference has been made in the agricultural methods employed, no drainage or sanitary works had been carried out, and no change had been made in the mode of living. Between 1824 and 1840 lime was applied to the soil for purely agricultural purposes, and by the time the whole plateau had been thus treated malaria had disappeared. Grellet maintains that the geographical distribution of malaria supports his contention that malaria is not found where the soil contains a sufficient quantity of lime. Lower Egypt, for instance, which, with its marshes, high

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temperature, etc., might be expected to prove a hotbed of malaria, owes its general exemption to the relatively large amount of lime in the Nile water and mud. Still more striking are the differences observed in certain districts in France. La Beauce, on the right bank of the Loire, is free from malaria; across the river, la Sologne, on clay and gravel, suffers severely. The north (calcareous) coast of France is free from fever; the west coast, south of the Loire, is malarious—its soil is clay. No accurate observations have been made as yet on the quantity of lime necessary to kill the malaria parasite. At Châtillon-sur-Loing about 10 tons per acre were employed. At Lapeyrouse the amount used on granite soils and on clay were respectively about 2½ and 3½ tons per acre. M. Grellet makes no mention of the mosquitoes at Châtillon. The value of a process which at once checks malaria and improves the soil is obvious.—*British Medical Journal.*

Our Native Drug Plants.—The Secretary of Agriculture, Hon. James Wilson, has embraced the following paragraph in his annual report, which is of interest to the medical profession:

"The collection of native drug plants in the United States, considered from a purely financial standpoint, aside from medical and humanitarian aspects, involves the expenditure of millions of dollars annually. The commercial extermination of some of the most useful species is already threatened, and doubtless others would be found in the same conditions were the facts known. The price of one native plant, ginsing, our exports of which average more than a million dollars annually, has more than quadrupled in the past thirty years, so that its cultivation, as urged four years ago by this department, has now become profitable. It is clear from this and many similar cases that the native drug industry is capable of either decline or improvement, according to the way in which we handle it.

"The Pan-American Medical Congress has recently submitted to me a proposition to co-operate with this department in a technical and statistical investigation and classification of our native drug plants. By accepting this proposal we shall secure, in a research of which we have long felt the need, the cordial assistance and support of an influential association of learned physicians; we shall encourage each of the other American nations, all of which are represented in the Pan-American Medical Congress, to proceed with a similar investigation of their own medical flora; we shall furnish a basis for the remunerative employment of much land and many people, and we shall stimulate the great growth and growing trade in drugs between the countries of North and South America. I urge the appropriation of $10,000 to enable this department to co-operate in this investigation."

Death of Dr. Elliot Coues.—Dr. Elliot Coues died in Johns Hopkins Hospital from the effects of an operation on December 26th. From his father, Samuel Elliot Coues, who was a noted scientific man, he received his liking for natural history, which resulted in his development as an ornithologist. He was graduated from the Academic Department of the Columbian University in 1861 and from that institution's School of Medicine in 1863. Later his alma mater gave him the degrees of A.M. and Ph.D. He became assistant surgeon in the United States army in 1863 and held that rank until his resignation in 1881. Wherever his army duties called him he made exhaustive studies of the fauna and flora of the region, and he often set down the results of his investigations in valuable scientific papers. He held the chair of anatomy in the National Medical College from 1877 to 1883, when he was appointed professor of biology in the Virginia Agricultural and Mechanical College. Soon after his resignation from the army he began to investigate by means of scientific methods the phenomena of spiritualism and telepathy, with the result that he became a theosophist and a prominent associate of Madame Blavatsky. He was a member of the British Society of Psychical Research. In later years, however, he lost much of his interest in occult studies, probably because of his tardy apprehension of the emptiness and the trickery inherent in Madame Blavatsky's movement. One of the most important of his many literary labors was the contribution, during seven years, to the "Century Dictionary" of more than 40,000 words and definitions in general biology, comparative anatomy, and all branches of zoology. The range of his literary life was very great. He was the author of thirty-nine volumes, and he contributed over 1000 articles to various magazines and periodicals. He served six different scientific journals in editorial capacities, and his name was on the rolls of more than fifty American and foreign scientific societies. Dr. Coues was fifty-seven years old.

Medical Necrology During 1899.—Among the distinguished medical men who have passed away during the past year the following are worthy of special mention in closing up the medical accounts at the end of the year. Joseph Coates, professor of pathology at the University of Edinburgh, died January 24th. He was one of the men who twenty-five years ago realized that the scientific foundation of medicine was pathology; that if medicine was to advance in England as it had done in Germany, it must be by the cultivation of pathology. February 10th, Professor Laboulbene, professor of the history of medicine for twenty years at the University of Paris. When younger he was known especially for his work in pathology and entomology. February 21st, Professor William Rutherford, professor of physiology at the University of Edinburgh. February 25th, Sir John Struthers, emeritus professor of anatomy at the University of Aberdeen. March 10th, Sir Douglas Galton, M.D. May 27th, Professor Charpentier of the French Academy of Medicine. June 13th, Lawson Tait. Mr. Tait's death is the greatest loss medicine has

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suffered, in English-speaking countries, during the year. His ground-breaking work in aseptic surgery, in tubal pregnancy, in ovariotomy, and in the surgery of the gall-bladder stamps him as the most original practical surgeon of our generation. July 31st, Dr. Daniel Garrison Brinton. Dr. Brinton served as a surgeon during the Civil War, though of late years he had acquired a worldwide reputation as an archeologist and ethnologist. August 20th, George A. Hendricks, professor of anatomy in the University of Minnesota, at the age of forty-nine. September 30th, Surgeon-General Sir Charles A. Gordon, K.C.B., of the British army. His work on enteric fever in India gave him high rank as a medical observer and hygienist. For his courageous and unselfish services during the siege of Paris, at which city he was a medical commissioner for the British government at that trying time, the cross of the Legion of Honor was conferred upon him. December 26th, Elliot Coues of Baltimore, and December 30th, Sir James Paget of London. The last two have more extended mention elsewhere in this issue.

Medical News from Seat of War.—Much comment is being made upon the contrast between the noble and friendly action of the American ladies in charge of the "Maine" and the resolution of "Senator Billy" Mason, thankfulness being expressed that it is the former which really represent the bulk of intelligent opinion in the State. The state of affairs in the Commissariat Department is not entirely satisfactory. Complaints continue to pour in, in private home letters, from enlisted men, of the wretched fare upon the transports en route for Africa, especially in regard to the meat, both salt and canned, the former of which was frequently condemned by the medical officers and the latter alleged to be most uninviting. One private alleges that he lived upon canned salmon and marmalade for ten days, paying out of his own pocket for them, and all writers agree that a large share of the men's pocket-money was spent for food, as high as two dollars being said to have been offered for a loaf of bread. Of course some of this must probably be discounted as due to Mr. Atkins's natural propensity to grumble at his food, especially when his appetite is "sicklied o'er" by *mal de mer*, but there is too much smoke of this sort not to have some real fire at the bottom of it. The English Admiralty has long had an unenviable reputation in this respect, since the scandals of the Crimea in fact, not from corruption or even incompetence in the ordinary sense, but from the paralyzing effects of its abject worship of red tape. A few of the complaints, however, are still more grave and involve the military authorities, as troops on the Orange River complain that, in spite of the presence of abundant stores of provisions, the actual rations served out to the men in the field are most scanty. Still, the defect cannot be very serious or widespread, as the health and general condition of the men at the front is universally reported as excellent. It is, however, a possibility to be borne in mind that the great fatigue complained of by the troops in and after an action, and which is declared an important factor in accounting for the large number of prisoners taken, may be dependent in some measure upon these alleged inadequacies of the commissariat. Extensive arrangements are being made for the reception of wounded and others invalided now at Netley Hospital, and specially fitted trains are provided for their conveyance from the docks directly to the hospital. The "volunteer" movement among general hospitals, sanatoria, and convalescent homes continues to spread, and offers of free accommodation for military invalids are coming in almost daily. One of the latest came from the London County Council, which, upon the urgent recommendation of its Parks Committee, has unanimously decided to turn the beautiful private mansion and park-like grounds at Golder's Hill, recently acquired as an addition to Hampstead Heath, into a temporary convalescent home for invalided soldiers. The expense of fitting and maintenance is to be borne by a committee of public-spirited residents of Hampstead, headed by several members of our own profession. The drain upon the insufficient army medical staff is again beginning to tell, and more civilian medical men are about to be enrolled to fill the gap. Professor Ogston of Aberdeen, whose able and outspoken criticism, at the Portsmouth British Medical Association, of the neglect of the Army Medical Department by the War Office, is going out to South Africa as an interested spectator; not, we need hardly say, in an official capacity or at the expense of the irate and offended War Office, although there is an apparently authoritative rumor abroad that he goes by request of the Queen.

CORRESPONDENCE

OUR LONDON LETTER.

[From Our Special Correspondent.]

BORIC ACID AND FORMALIN AS FOOD PRESERVATIVES—COW INSPECTION IN LONDON—TUBERCULOSIS CONGRESS—RESEARCH LABORATORIES—RISE IN LONDON DEATH-RATE—COMPLICATIONS AT LEICESTER—MEDICAL ARRANGEMENTS IN SOUTH AFRICA—MEDICAL MEN AND THE ROYAL SOCIETY—CANCER LABORATORY DONATION — INSANITARY FACTORIES — CONSUMPTION IN HOUSES—HEART MURMURS—MILLIONS FOR DRAINAGE—MODEL LODGING-HOUSES.

LONDON, December 23, 1899.

Just as the departmental committee is holding its sessions upon the question of the use of preservatives in foods, and public attention is being directed toward the subject, a most timely paper by Dr. A. G. Faulerton, bacteriologist and lecturer upon hygiene at the Middlesex Hospital, has appeared in the *Lancet*. This

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is the report of an elaborate original investigation into the effects of formalin, boracic and salicylic acids upon the general health, the processes of digestion, and the solubility of the food treated with them. He comes to the reassuring conclusion that in the amounts usually present neither formalin nor boracic acid have any appreciable effect upon either the general system or the digestion, except possibly in the case of delicate children or invalids who are on an exclusive diet of the food. Their use should, however, be strictly regulated, only such as are approved by the Local Government Board being permitted at all, and these in proportions not to exceed a specified maximum. Lastly, all "treated" or "preserved" foods should be clearly labeled or otherwise indicated as such. With these conclusions most of us will agree, especially as to the advisability of having rigid examinations of food and condemnation of all specimens containing more than the proportion allowed. But as to whether the labeling of the milk, butter or cheese as "treated" could ever be anything more than a "counsel of perfection" seems seriously doubtful. Such a label in the present state of public sentiment would simply condemn the goods at sight and ruin their sale. Permission to use on these terms is tantamount to an absolute prohibition and would prove practically as difficult of regulation and enforcement. We are fully justified in the radical step on the ground that such additions open the way for the covering up of all sorts of carelessness and uncleanliness in the original handling and collection of milk and cream.

The Public Health Committee of the London County Council report that their inspectors have examined 5144 cows in London dairies and found 680 or 13 per cent. presenting clinical symptoms of tuberculosis. They recommend that dairy cattle in the London cowsheds should be examined regularly at least every three months by veterinary surgeons, and suspected cows at more frequent intervals. This inspection will, however, never be complete or really effective until it includes the systematic use of the tubercular test.

The National Association for the Prevention of Consumption, since its inauguration last spring under the auspices of the Prince of Wales, has spread rapidly until it now has branches in almost every part of England. Eminent members of the medical profession have been most active in promoting its interests and it is now proposed to hold a congress in London in furtherance of its aims in the spring of 1900. The Prince of Wales has accepted the presidency at the gathering and the council of the association, of which Sir Wm. Broadhurst is chairman, are working on the liminary arrangements.

The research movement is steadily spreading in London. Following close upon the establishment of a cancer laboratory at the Middlesex Hospital, the Governors of the Westminster Hospital have announced the equipment of a clinical research laboratory with modern appliances and a "pure" pathologist at its head, upon the lines, as they themselves complacently remark, which have proved so successful at Johns Hopkins. Congratulations are pouring in upon them from all sides and we must all cordially unite in these but cannot forbear a friendly comment of surprise upon one feature of the scheme. The Governors take special pains to announce that the superintendent is to be a professed pathologist and freed from dependence upon general practise and that hence his salary should be on a proportionate scale, wherefore he is to receive the sum of $1,250 a year with certain fees from lectures in the medical school at the hospital. It is to be hoped that these lecture fees are distinctly liberal, else it would hardly appear to transatlantic eyes as if the professed pathologist was as completely freed from dependence upon practise or other sources of income as might be desired.

The sudden change in the hitherto mild weather to dense fog, followed by raw frosts and light snow, has had a striking effect upon the London death-rate, sending the unusually low rate of a week ago of 17.5 per 1000 sharply up to 22.4 per 1000. The increase was chiefly in deaths from diseases of the respiratory organs which leaped from 430 to 548, or 112 above the corrected average for this week of the year. A similar effect has been produced among our cousins at the Zoological, no less than two out of the three surviving chimpanzees having joined the majority by the way of bronchopneumonia.

There is still trouble at Leicester. When the Guardians made their submission to the Court Mr. Justice assumed a most astute attitude of reserve and declined to dismiss the charge of contempt against them until he was assured that their compliance was genuine and the vaccination-officer appointed a suitable man. And his suspicions have been abundantly justified already, for the Local Government Board have declined to confirm the officer on the ground that he had been fined some years before for failing to have his children vaccinated and was even now a defaulter under the Act, as his youngest child, although three years of age, was still unvaccinated. They had also found that he did not propose to prosecute defaulters except *with the concurrence of the Guardians,* and hence his appointment was practically a farce. Wherefore the Guardians are advertising for another candidate and are hastening to submit their apologies to the incensed High Court.

The medical news from South Africa for the past week has been as scanty as the military, owing probably to the strict censorship exercised over all the telegrams by the authorities. So far as it goes, however, it is most satisfactory. The wounded are doing wonderfully well; little dysentery or typhoid and no crowding whatever in the hospitals. The only serious anxiety is as to the condition of the troops and civilians shut up in Ladysmith and Kimberly, especially

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the former, where, as intimated in a former letter, typhoid is a regular seasonal occurrence to a greater or less degree.

The profession is again strongly and most creditably represented upon the blue-ribbon list of English science, the staff of the Royal Society. Lord Lister has just been elected to succeed himself as President. Sir Michael Foster is again Hon. Secretary, while upon the Council are Profs. Herdman and Halliburton of physiological and pathological fame, and Sir Samuel Wilks, late President of the Royal College of Physicians.

The public is getting decidedly interested in cancer. Only three days ago the Governors of the Middlesex Hospital announced to the press their intention, which they had been maturing for some months, of opening a cancer-research laboratory in connection with their new cancer wing. They mentioned the amounts to be expended upon equipment and maintenance, remarking merely that subscriptions would probably have to be asked for. Within forty-eight hours they received in one donation from Mr. Arthur W. Davis the sum of $5,000 sufficient to cover running expenses upon the scale contemplated, for nearly two years.

Even in England sanitary legislation gets "hung up" sometimes. Only this week a delegation of cotton-cloth workers representing 80,000 operatives called upon Sir Kenelm Digby at the Home Office to complain of the insanitary condition of their factories. The artificial moisture required in the weaving-sheds is kept up by sprays of impure water, the percentage of carbon dioxid created in the processes is far in excess of the legal maximum, and the rooms are excessively overheated—the only such in England if this be the case. An order in court prohibiting these abuses was issued twenty months ago, but no effect whatever had been produced yet. Sir Kenelm Digby replied that it took time to put such orders in force—which was tolerably obvious—but that the office would at once move in the matter.

Sir Richard Thorne-Thorne, in his address upon "The Prevention of Tuberculosis," before the London Medical Society, summed up his view of the method of spread of tuberculosis in the sentence, "Consumption runs in houses—not in families." He called attention to the fact, too easily overlooked in these bacillophobe days, that the chief factor in the huge fifty per cent. reduction of the tubercular death-rate had been drainage of the subsoil and ventilation of houses, and that two-thirds of it had been effected before the bacillus was discovered.

An interesting case of heart murmur was demonstrated by Sir William Broadbent, at his consultation at the Polyclinic this week. This was the extracardial "rub," due to the friction of a small thickened patch upon the pericardium—a "pericardial corn," as Sir William graphically described it. These patches are quite common, occur without any inflammatory process, and last for years, or even a lifetime without changing or giving rise to any symptoms whatever except the murmur. Their chief distinguishing character is that the murmur disappears or diminishes under firm pressure. The lecturer stated that many young men are needlessly rejected at army entrance-examinations on account of these soft systolic murmurs, which have really no practical morbid or prognostic significance.

The immensity of the sanitary problems of London may be imagined from the action of the progressive London County Council, or "L. C. C." as it is always spoken of, this week, when it was decided to expend upon a main drainage scheme alone the sum of $7,500,000, and this is only the first instalment upon a project estimated to ultimately require some $15,000,000. But the design is as superb as its cost, for it achieves the complete freeing of the Thames from both sewage and surface water, and the delivery of these by great conduits into the estuary several miles below the city. Even this, however, will only solve the problem temporarily, on account of the rapid extension of the river suburbs down the shores of the estuary, and the undesirable effects of these enormous quantities of sewage upon the lower reaches of the river, which is already beginning to be noticeable. Sooner or later the problem of the direct destruction or purification of the sewage either by chemical, combustive, or "natural" farm methods will have to be faced.

An experiment which will be watched with great interest by all sanitarians was resolved on this week by the London County Council. This is the erection of a model lodging-house upon the Rowton plan, as a means of relieving one form of London's overcrowding. These "Poor Man's Hotels," as they term themselves, are the admirable device of a philanthropic peer, Lord Rowton, and are huge well-warmed and lighted buildings where, for the modest sum of 12½ cents a man can secure not only a tiny cubicle and cot for the night, but a bath, a shave, the use of a reading-room and smoking-room. A dining-room and series of cooking-ranges, with utensils, are also free, and at a buttery portions of food of all sorts may be bought for from 1 to 6 cents, and then cooked by the "guests" themselves. There are now three of these in London.

SOCIETY PROCEEDINGS.

THE NEW YORK ACADEMY OF MEDICINE—SECTION ON SURGERY.

Stated Meeting, Held December 11, 1899.

Charles N. Dowd, M.D., Chairman.

A Case of Prostatectomy was presented by Dr. Alex. B. Johnson. The patient, sixty years old, a silk weaver, suffered first from difficulties of urination some five years ago. Then his urination

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became painful and frequent, especially at night. During the last few weeks before his admission to Roosevelt Hospital in October, 1899, he had been compelled to pass his water ever ten minutes. He had been catheterized frequently without affording him very much relief. He had never used the catheter himself. His peripheral arteries were atheromatous; there was no cardiac lesion present. His urine was normal in quantity, fetid in odor, but not ammoniacal, contained pus, but no casts. There were five ounces of residual urine. An enlarged prostate, apparently symmetrical, could be felt per rectum. When the patient first came into the hospital his pulse was 120. There was a constant desire to urinate, which was not relieved by catheterization, and despite the fact that he was catheterized every couple of hours for five days his condition was not improved. He was not only ready then but anxious for any operation that promised to give him relief.

Under ether anesthesia an incision two inches long was made at the median line just above the pubis. The prostatic collar could be felt very plainly projecting into the bladder and there was a large prominence behind it. A transverse incision was made just in front of the anus and then, by blunt dissection, mainly with the finger the enlarged prostate was easily shelled out. The median lobe came away with the torn mucous membrane of the membranous portion of the urethra. The median suprapubic incision was closed, a large catheter was passed in the wound in the perineum, and the latter packed. There was not any shock, nor pain after the operation, nor symptoms of even slight septic infection. The urine drained through the packing, which was of sterile gauze, and had to be changed frequently for the first couple of days. For the first twenty-four hours the discharge was somewhat better. After forty-eight hours iodoform gauze was substituted in the dressings, and a gradually decreasing amount was used. The catheter was allowed to remain in for the first eight days. After this a 32 French sound was passed.

His first voluntary urination took place on the eighteenth day. Faradic electricity was used in order to increase the muscular tone of the overstretched bladder. It was applied by means of a metal electrode inserted into the rectum and a sponge electrode over the pubis, and proved very effective. There was a gradual increase in strength of the stream and in the amount of urine passed by the urethra, with a decrease in the amount of urine passed by the perineal sinus.

At the present time, two months after the operation, he weighs twenty-five pounds more than he did before it, is able to retain his urine for long intervals, urinates freely at will, and his urine is normal. There is still a slight sinus in the perineum, through which a certain amount of urine trickles at times, but it is visibly growing less and less in amount from day to day, and the sinus is rapidly closing up. The impression obtained from an operation like this is that it is much easier to do a prostatectomy than it has usually been thought. The speaker said that if he were to do another operation of the same kind there is one improvement in technic that he should endeavor to put into practice. He would not tear through the membranous urethra, but would shave the prostrate from along side of it, after shelling out the lateral lobes. This would perhaps cause more hemorrhage at the time of the operation, but it does not seem that this would be difficult to control, and convalescence would certainly be very much shortened by this procedure.

Prostatectomy and Urethral Resection.—Dr. Eugene Fuller presented two cases of prostatectomy and one case of resection of the urethra. The first patient, a man sixty years of age, had followed the sea for many years. He had all the prostatic symptoms. He had been under treatment at a metropolitan hospital, where perineal drainage had been tried, but absolutely no attempt was made to do anything for the prostatic condition. The result was a urinary fistula in the perineum, but no relief of his symptoms. The patient had atony of the bladder, his urine was extremely foul, and his symptoms were so severe that he was ready to undergo any operation which promised relief. Prostatectomy was surely indicated.

An attempt was made to do the prostatectomy through a suprapubic incision, but the peritoneum was found to be so involved in chronic inflammatory adhesions that it was impossible to expose the bladder sufficiently to make the ordinary incision. The transverse incision suggested by Trendelenburg might have been tried, but it so often proves the occasion of bulging in this region afterward that it was not deemed advisable. The operation had to be performed through the perineum. Operative procedures were much complicated by the fact that the old sinus had to be cut out during the course of the operation. The prostate was so large that it was hard to deliver through the perineum, and it was only when one of the heavy straight forceps usually used in peritoneal work was employed that the prostate could be grasped and brought out. No sounds were used after the operation. They are of no benefit as far as can be seen and they cause traumatism that should be avoided if possible. A resection of the urethra was made after the removal of the prostate, and a catheter was allowed to remain in for some time. At the present time the patient is able to pass a good forcible stream of perfectly normal urine, has none of his old symptoms, and can retain his urine for reasonably long intervals. Dr. Fuller then showed a second case in which there had been inflammatory thickening all around the prostate from the presence of gonorrhea, prostatitis, seminal vesiculitis, and other complications that had caused a massing together of all the tissues in the neighborhood of the prostate. The bladder was atonied—a quart of water might be injected into it without causing a reaction for its expulsion. A hemorrhage into such a bladder would be very dangerous, and no packing around the catheter would suffice to stop it.

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The prostate was removed through a suprapubic incision, and a second opening was made through the perineum for drainage. Where atony of the bladder has existed for some time the only thing that gives any assurance of recovery from vesical symptoms is to set the bladder absolutely at rest for a time. Otherwise bothersome recurrence of symptoms will surely take place.

Resection of Urethra.—Dr. Fuller's third patient suffered from stricture through which it was extremely difficult to pass a catheter, and it had finally become practically impossible after a number of false openings had been made. Instead of spending half to three-quarters of an hour trying to pass a sound, it seemed more advisable not to keep the weakened patient for a long time under ether, but to do the operation without a guide. The urethra was resected, the ends carefully sutured together, and at the present time the patient is able to pass a perfectly good stream. No instruments were used to dilate the urethra after the operation, and it does not seem advisable at any time to use them. They always do more harm than good.

Prostatectomy at Seventy-one Years of Age.—Dr. Forbes Hawkes presented a patient, seventy-one years of age, who had had two attacks of retention of urine during the past year, the last one being a very severe one. His prostate proved to be very much enlarged and his urethra was over twelve inches long. Sixteen ounces of urine were removed after considerable difficulty. The patient was very willing to undergo a radical operation because he had suffered a good deal and feared the result of another attack of retention. His inguinal glands were enlarged, and it seemed as though on palpation through the rectum some enlarged retroperitoneal glands could be felt. The case looked like one of carcinoma of the bladder, and an unfavorable prognosis was given.

A suprapubic incision was made and then an incision through the vesical walls over the enlarged lateral lobes and prostate. These were rather easily shelled out. The median prostatic lobe, which was also enlarged, was then worked out through the space furnished by the previous removal of lateral tissue. Into the pouches that were left drainage-tubes were put down, in order to carry off any accumulation of blood. The catheter was retained for some days. Everything healed very kindly and the patient's present condition two months after the operation is excellent. He goes to bed at nine and does not have to get up until seven. His control of his urine is practically perfect. When he sneezes a drop or two is sometimes forced from the urethra.

In this case the enlargement of the prostate was much more into the bladder than downward into the rectum. By palpation in the rectum the prostate did not seem much enlarged, and seemed to be regular and symmetrical. It proved, on removal, to be very irregular and nodular, the enlarged lateral lobes overlying the median lobes and pressing against one another. The tumors after the enucleation weighed five ounces.

Floating Cartilage of Knee-joint.—Dr. B. Farquhar Curtis presented a patient showing the result of an operation for the removal of such a cartilage. The patient, a young man, had had no symptoms until June, when as the result of dancing he suffered from traumatic synovitis, with effusion into the joint. In September, from even a slighter cause, he had another such an attack. An irregular body was found projecting beneath the skin at one side of the knee and was cut down upon and removed. It proved to be a bit of purely hyaline cartilage attached by a pedicle to the upper part of the capsule of the joint. The healing was rapid and at the present time there seems every hope that there will be no further attacks.

Dr. Lloyd presented a case in which the patient, after jumping, had been compelled to limp, and noticed a clicking in the joint. He felt something movable there. The joint was opened and four bits of floating cartilage were found. One about the size of an almond kernel, and three others the size of peas. On the tenth day the splint was taken off and the patient had good motion. There is still a little pull on the ligamentum patellæ, but motion is good and there has been no recurrence of any symptoms.

Cystoscope of Nitze and Caspar.—Dr. Willy Meyer demonstrated the ingenuity especially of Nitze's instrument, showing how the loop for seizing intravesical tumors was manipulated, and how it might readily be changed into an electric cautery. Cauterization of these tumors is possible notwithstanding the presence of water in the bladder, because the loop of wire buries itself in the tissues of the tumor, and so is protected for the moment from contact with the water, and the consequent cooling.

With this instrument Dr. Nitze has operated on thirty patients. They were operated on as office cases, and did not require being put to bed. Frequently they were allowed to go to the theater or to a dinner-party the same evening. The tumors were removed piecemeal, as many as fifteen sittings being required for some of them. Death did not occur and there were no alarming symptoms. At times there was severe hemorrhage, and the clots had to be washed out with an aspirating instrument. The major part of the tumors removed were papillomata, and proved to be benign. The cases were followed for a year and a half afterward, without a single recurrence as far as could be ascertained. Dr. Nitze differs from Rokitansky with reference to the character of these tumors, and considers that many that used to be considered malignant are really benign and when removed will not return.

Bottini Prostatic Cauterizer.—Dr. Meyer demonstrated this instrument and showed how readily it could be employed. He has used Bottini's method of treating prostatic hypertrophy in twenty-three patients during this last year and a half, and has had no recurrences. Bottini himself, whose experience extends over twenty-four years, says he has never seen any recurrences. Operations for prostatic trouble so far have either

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been offensively mutilating, or have been so severe that patients have refused operation until pyelonephritis or other serious complications made even simple operations very grave. It would seem that this comparatively easy procedure of Bottini's will tempt patients to allow themselves to be operated on sooner and so anticipate the severer troubles. This would seem to be particularly the field for Bottini's operation. With regard to the cauterizator there is one case in particular reported by Bottini, which is very striking. A boy of sixteen, who had been incontinent of urine for some fourteen years, was completely cured by a single cauterization of the neck of the bladder.

It would seem that there is a field for it in certain cases of chronic gonorrheal prostatitis where deep injections and massage, and every other mode of treatment has failed.

In discussion, Dr. Bolton Bangs said that the ingenuity of Nitze, as displayed in the cystoscope that he has given the profession, is certainly to be admired. It is undoubtedly a welcome addition to the armamentarium of the surgeon, but it is very doubtful if it will accomplish all that its inventor hopes for. Tumors of the bladder are, unfortunately, oftener malignant than benign. Perhaps the operating cystoscope will be of use for cases of recurrence, when patients will be more ready to submit to this form of intervention than to operation. As to the Bottini cauterizator, he said that he had not had any experience with it. The Bottini incision has certainly come to stay, but it is necessary to select the cases in which it will surely be useful. In some cases, notwithstanding long and broad and deep incisions, it had failed to give anything more than temporary relief. In soft prostatic enlargement, where the glandular elements predominate, it seems to do good. But in the fibroid enlargement of the prostate it has been less successful.

Dr. Samuel Alexander said that there are two questions which must be considered in all treatment of enlargement of the prostate: First, what are the causes of the vesical and urinary symptoms, and, secondly, what operation will give relief? There is primarily a set of permanent obstructions. These are due to overgrowth of the prostatic gland itself, and of accessory prostates. And then there is a secondary temporary obstruction due to edema of the prostate and venous stasis within the gland. In any case it is the disturbance by the tumor of the muscle fibers of the bladder which prevents the proper emptying of that viscus. Tumors, especially of the middle lobe of the prostate and of the accessory prostatic glands existing beneath the mucous membrane of the trigone, cause this disturbance of muscular action. Hence, atony of the bladder develops from overstretching in the hopeless effort to empty the bladder under such unfavorable circumstances. The only operation that will remedy this interference with muscular action is the removal of the enlarged prostate that causes it. Bottini's operation only removes the obstruction; it does not allow the vesical fibers to resume their want of function. Besides this, it does not drain the bladder and so give it the time for an absolute rest, which is the only thing that can restore it to its normal condition. Bottini's operation gives but temporary relief, and then leaves the tissues in an extremely unfavorable condition for any radical operation to be undertaken afterward. It would be too bad if the desire for novelty should replace scientific judgment in so serious a matter as this, and a protest should be raised against the present movement in favor of Bottini's methods.

Dr. Otis thought that Dr. Nitze's very ingenious instrument will very probably never be of any practical service except to aid in the catheterization of the ureters. It requires too much skill in itself, and the opening of the bladder has become comparatively so safe an operation in our day that it is evidently more advisable to do the operation under the direction of the eye and hand than with the doubtful operating cystoscope.

Dr. Willy Meyer, in closing, said that Dr. Nitze claims that his method should be used only for benign tumors, which, he says, are more frequent in the bladder than is usually thought. It is not probable that Bottini's method will do away with all necessity for operative work on the prostate; still the hope may be cherished that patients who are developing symptoms of prostatic trouble will be persuaded sooner to accept this method for relief of their symptoms than they would the older and more severe operations.

HARVARD MEDICAL SOCIETY OF NEW YORK CITY.

Stated Meeting, Held November 25, 1899.

William B. Coley, M.D., Vice-President, in the Chair.

New Electro-Static Current.—Dr. William James Morton read a paper on this subject with considerations of its place in electro-therapeutics. He said that the history of electricity in medicine in this country does not go back very far. In 1881 he brought the first influence electric machine to this country from France. At that time Dr. Knight had a small static electric apparatus which was the only one of the kind in New York City. Now, of course, the number of static machines in use runs up into the thousands. Fashionable drugs come and go, but static electricity has continued to gain in popularity until now it is one of the most generally used of therapeutic agents.

Effects of Static Electricity.—The long spark or the shorter finer one producing the prickling sensation is used. The therapeutic advantage of the spark comes from its percussive effect. This effect is produced not alone on the surface, but also on the tissues beneath the skin. The molecular perturbation produced in muscular tissue causes a decided reaction in normal metabolism. Besides this there is now no doubt that electricity

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applied to peripheral nerves acts upon the nerve centers. Hodges' observations show that peripheral excitation produces changes in nerve-cells, causing decrease in the size of their nuclei and variations in the appearance of their protoplasm.

Besides the ordinary static electricity with discontinuous sparks there are two forms of current electricity from the static machine which may be employed. In the one the patient on an insulated stool receives the current from a static machine until fully charged. Surplus current then either passes off into the air or may be taken from the patient with the production of sparks just as if he were touched by one pole of the machine when in contact with the other. The effect of the current of electricity passing into him is essentially tonic in action and while stimulating is not in any sense irritative. On the contrary there is a distinct soothing effect produced especially on excited nerve-tissue and this with its stimulating action has an excellent effect on chronic neurasthenic and other neurotic conditions. Painful affections that are not acutely so but long enduring and productive of a great deal of annoyance are especially benefited by frequent treatments of this kind.

There is a second form of static current that is still more interesting, because more effective and especially more soothing and anesthetic than the preceding one. In taking this the patient is seated upon the insulated stool as before and one of the poles of the static machine is grounded, an electrode attached to the other pole being placed on the patient wherever the soothing and stimulating properties of this current are required. In this current the patient forms a part of the displacement circuit of Clarke Maxwell, or, to put it in what is now a more popular form of expression, the patient is the sending pole of a Marconi wireless telegraphic circuit.

Spark-Gap Current.—The electric wave or spark-gap current is able to produce physiological tetanus of muscles with the least pain possible under the circumstances. Not only that, but its absolute effect is greater than that of the static current. Experiments have shown that a muscle can be made to lift a dumbbell without pain by exciting it with this current, when to produce the same effect with the other current will cause considerable pain. This spark-gap current has a general and local effect. In general it is tonic in quality, accelerates combustion and oxidation in the tissues, and this improves metabolism and hastens excretion. D'Arsonval found that under its use there was produced in the tissues more water, more carbon dioxid, and more urea than under ordinary circumstances. The salient fact in its use is this notable increase of metabolism.

Therapeutic Applications; Locomotor Ataxia.—So much has been claimed theoretically for electricity that only practical results really deserve consideration. In progressive locomotor ataxia of the first and second degree the use of the static machine will arrest the progress of the disease, improve the co-ordination, lessen the bladder symptoms, decrease the pain, diminish the number of crises, and relieve sexual and urinary symptoms. There is distinct improvement from the very beginning of the treatment. In cases where a spark was not felt at the beginning of the treatment it could be distinctly felt at the end of four minutes, while at the end of a quarter of an hour sensation had returned to such a degree that the same length of spark could be no longer tolerated. As the sensations improve in locomotor ataxia the co-ordination becomes better. Patients themselves are more satisfied with the treatment because of its effect upon their pains as well as upon their sexual potency, and also for the confidence it gives them in their power of co-ordination.

Here is a patient who has suffered for nearly ten years from tabes, with lightning pains which were so severe and so frequent as to make life almost unbearable. His co-ordination was so much affected that he could walk around only with the aid of two canes. His confidence in himself even under these circumstances was so slight that he scarcely ventured to go on crowded streets or to cross the street when vehicles were approaching. His general condition was very much debilitated by his frequently recurring pains and by various visceral crises. As can be seen at the present time, he is able to walk well with but one cane, or can even dispense with that and still walk reasonably well. He has regained confidence in himself and is able to go about the streets without fear. He goes up and down stairs without difficulty, and his old sensation of always walking on carpet has almost completely disappeared. He is able to turn rapidly, and can guide himself confidently through a crowd. He has been so much improved by three months' treatment with static electricity that he now considers himself in very tolerable condition. He is very proud and very satisfied with the results that have been secured. The case strikingly illustrates how much can be done for tabes even in its most seemingly hopeless condition by careful treatment with this method.

Rheumatoid Arthritis.—A second group of cases in which electricity works almost incredible wonders is rheumatoid arthritis. This affection is usually considered incurable. During the past few years some thirty cases have been under treatment at the Post-Graduate Medical School and Hospital. Many of them have been cured, and in all of them the progress of the disease has been arrested. There is present this evening one of the most satisfactory cases, a private patient who, after having been under electrical treatment in France, was told that it was possible for her to receive the same sort of electrical treatment at home, and was referred to him. She had the swollen, stiff joints of the advanced preliminary stage of rheumatoid arthritis and was rapidly becoming absolutely helpless. She was not able to break bread in her fingers, and practically all of her joints were very stiff. As may be seen, three months of treatment has completely cured her, and she was able to dance at the last Assembly ball.

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THE MEDICAL NEWS.

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ORIGINAL ARTICLES.

GONORRHEA; ITS DANGERS TO SOCIETY.[1]

BY ALBERT NEISSER, M.D.,
OF BRESLAU, GERMANY;
DIRECTOR OF THE ROYAL DERMATOLOGICAL HOSPITAL AT BRESLAU AND PROFESSOR OF DERMATOLOGY IN THE ROYAL UNIVERSITY OF BRESLAU.

THE object of the article which I have written at the request of the organizing committee of this international conference is to present a brief review of the dangers that are known to result to the human race from gonorrheal affections. The impression continues to obtain in non-medical minds that the only venereal disease to be feared is syphilis. It is to contravene this popular notion and to make clear that recent experience and advances in scientific medicine have demonstrated that, for the female sex at least, gonorrheal infection brings with it far greater dangers to health and to capacity for work than does even syphilis that the present paper has been written. The dangers of the disease are so much the more to be feared since, during recent years, despite the great advances which have been made in medicine generally, the therapy of gonorrhea has not developed to a degree that would enable us to give assurances of cure as we can usually promise from the treatment of syphilis.

Unfortunately, it cannot be denied that something of this lack of success in the treatment of gonorrhea is due to the fact that many physicians retain old prejudices. "It is only a little clap," they say, and they do not demand the same stringent and careful regulation of life as they do when there is a question of syphilis. The old school physicians, moreover, are so wrapt up in old-fogy notions of treatment that they have neglected to give sufficient attention to the modern therapeutics of gonorrhea, and especially to the prophylaxis of complications.

Gonorrhea is in all civilized countries an extremely widespread disease. It is, perhaps, with the exception of measles, the commonest of the infectious diseases. The exact statistics as to its occurrence are not easy to obtain, since most of the cases of gonorrhea, even when they do come to medical men for treatment, and are not treated by quacks, apothecaries, and sympathetic companions in misery, form a part of the private practise of physicians.

Proportionately only a very small number of those who suffer from the disease come to hospitals, from which, of course, statistics are obtained. Especially incomplete are the statistics of the occurrence of gonorrhea in women. In most of the cases the early stage of infection in the female is either not noticed by the patients themselves or is falsely interpreted, and so escapes medical handling, and thus affords no statistical material. In all the stages of the infection, after the first acute inflammatory reaction has pased, the symptoms are so slight that recognition of the disease is nearly always impossible, unless, indeed, serious affections of the internal genital organs have already declared themselves.

It remains, then, to give a summary of the statistics such as can be obtained from hospital reports and the like. Naturally the numbers are much below the true incidents of gonorrhea even among the lower classes from which the patients of our local public institutions are mainly recruited. A good approximate idea of the prevalence of the disease is furnished by the statistics of the cases of gonorrhea in the various armies. We have here, on the one hand, a large number of men of about the same age, who live under almost similar circumstances and in whom the most careful inspection succeeds in bringing without doubt the very largest part of venereal diseases to treatment and statistical tabulation. As to the differences in the prevalence of the disease in various armies I have nothing to say here.

	Total No. of Soldiers.			Gonorrhea—Absolute Number.		
	1891-92	1892-93	1893-94	1891-92	1892-93	1893-94
German Army	434,680	439,161	467,333	7,200	7,511	8,364
Austrian Army....	284,743	289,460	298,035	9,150	8,598	8,838
Belgian Army....	43,184	44,549	47,045	912	920	995
French Army	474,067	464,778	467,781	14,848	14,544	14,865

	Gonorrhea—Per Capita Percentage.			Gonorrhea—Percentage of whole No. of Venereal Diseases.		
	1891-92	1892-93	1893-94	1891-92	1892-93	1893-94
German Army	15.8	15.7	16.6	54.4	53.1	50.5
Austrian Army....	32.1	29.6	29.6	53.5	51.6	49.0
Belgian Army.....	21.1	20.6	21.1	65.4	63.1	61.3
French Army	27.9	27.8	28.3	63.6	63.7	64.7

With reference to the civil population the following statistics seem of interest: During the year 1896 I sent a circular to all physicians practising in Breslau, and to all the institutions, asking that an account be kept of how many cases of venereal diseases were treated during the course of a single year in Breslau. Precautions were taken that the same patient should not be counted more than once and that patients who were only passing through Breslau should be separated from actual inhabitants of the city. Unfortunately only 81½ per cent. of the physicians to whom circulars were sent furnished replies.

[1] An answer to the second question of the Conference for the Prophylaxis of Venereal Disease, held at Brussels, September, 1899. Translated by Dr. James J. Walsh for the MEDICAL NEWS. All rights reserved.

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In spite of this the figures, I think, are not entirely worthless.

Altogether, 7685 persons were reported as suffering from venereal infection or complications of venereal infection. Of these, 6940 lived in Breslau. Of the inhabitants of Breslau, 3284 suffered from gonorrhea. This would make 8.7 per cent. of the population of the city in the year 1896.

This figure naturally does not give a true picture of the actual occurrence of the disease among the population, for one-fifth of the physicians sent no reply. Even if among those who made reports we consider that practically all those who had fresh cases to treat were included, yet, on the other hand, reports of gonorrhea in the female to a very large extent are wanting. This is clear, since of the 3699 reported cases of gonorrhea only 591 were in females. Of these, 238 were prostitutes and 85 were in women whose gonorrhea was only recognized because their newborn children developed gonorrheal ophthalmia. Finally, it must be remembered that the reports only concern such cases as came under treatment during the present year, so that the very large number of cases in which the disease was acquired some time ago, or in which residual complications exist, although they have not come under medical treatment in the present year, are entirely lacking from the statistics. Further evidence of the amount of error can be gathered from the fact that only 85 married women are reported as suffering from the disease, while 398 married men come into the statistics.

The proportion of gonorrhea to other venereal diseases is 47.3 per cent. of the whole number; syphilis represents 42.2 per cent., and soft chancre 10.4 per cent. It is very natural to think that in these statistics it is especially the number of cases of gonorrhea which corresponds least to the actual number, for it is sure that patients with ulcerative or syphilitic lesions come to a medical man much oftener than do those suffering only from gonorrhea. This is true in particular in the female sex.

Practically the same figures as we have for Breslau come to us from Copenhagen. In the year 1894 a special census in this matter was made, physicians being obliged by law to send in an account of all cases they had under treatment. Despite the legal requirements the report was incomplete. There were reported 5835 cases, of which 4159 were gonorrhea, 778 were soft chancre, and 898 syphilis; that is to say, 71.2 per cent. gonorrhea, 13.3 per cent. soft chancre, and 15.4 per cent. syphilis. The student body, unfortunately, makes a special group of the population, distinct from the rest by the frequent occurrence of the disease. Out of 2140 students, 216 in the course of the year suffered from venereal disease. Of these, 147 had gonorrhea, 26 soft chancer, and 43 syphilis.

We owe it to Noeggerath for having shown how prevalent is gonorrhea in the female sex and how serious its consequences may be. As has been said, it is here that statistics are most imperfect. By reason of the number of suspicious cases that occur in large public polyclinics it is impossible for the busy gynecologist to make a serious investigation in every case in order to obtain proof that gonococci are present. If the clinical symptoms alone are considered the number will, in my opinion, always be too high. This source of error will, however, be more than compensated for by the number of cases which are passed over either because their symptoms are too slight to call for medical attention, or because the manifestations of the disease are not sufficiently clear to suggest a careful examination. Saenger, out of his entire gynecological material, considers that 12 per cent. suffer from gonorrhea. Robert Asch found 14 per cent. Zweifel, in his private practise, found 10 per cent. These figures, it seems to me, are calculated to give a rather correct idea of the significance of gonorrhea as a disease of the female sex. Until the last decade or two, we were accustomed to consider the disease as not having any very serious importance in spite of our knowledge of its wide prevalence. It was looked upon rather as an annoying disorder which, because of certain painful complications, not infrequently became a distressing affection. It is only the work of the last two decades which has made the significance of gonorrheal infection clear. A large number of serious affections, some of which are followed by irremediable sequelæ, the cause of which was heretofore entirely unknown, are now recognized to be gonorrheal in origin. This is especially true of the disease in women. We now know for the first time how serious the danger is to the general population from the terrible prevalence of this infectious disease.

The following circumstances make gonorrhea a serious and often dangerous disease:

1. The affection does not remain limited to the primary focus of infection in the mucous membrane of the anterior urethra of the man, or the urethra or cervix of the woman, but progressively invades other parts. (*a*) Its first advance is to higher portions of the urinary tract; the neck of the bladder, the bladder itself, the ureter, and the pelvis of the kidney. The acute affections of these organs lead frequently to painful and often to febrile conditions which keep the patient in bed. Chronic conditions often develop, whose frequent and ever-recurring attacks of pain with frequent exacerbation lay the foundation for serious nervous disturbances of many kinds. (*b*) The next point of attack is the genital tract, and the disease advances along this. An acute purulent or chronic inflammation of the prostate, and then seminal vesiculitis or inflammation of the vas deferens and of the epididymus occurs. The affection of the prostate usually causes no immediate disturbance of the genital function. The chronic form, however, affects the potentia coeundi injuriously, causing inefficient erection, precocious ejaculation, and

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irritable weakness of the genital functions generally, by setting up local nervous disturbances and neurasthenia. It is possible also that alteration in the prostatic secretion may interfere with the motility and consequently with the potency of the spermatozoa.

If the gonorrhea attacks the prostate direct treatment becomes impossible. This localization of the disease takes on a very special interest in its relation to that important question whether absolutely incurable cases do not exist; that is to say, cases which remain persistently infectious despite all treatment. This question, to my mind, unfortunately must be answered in the affirmative. Affections of the vas deferens and of the epididymus are of more importance, as it is by means of these that the largest number of cases of impotence are occasioned. Notwithstanding perfectly normal functioning of the testicle, the inflammation so closes up the epididymus, the vas deferens, and the seminal vesicles, that in a large number of cases it produces an absolute mechanical hindrance to the progress from the testicle to the urethra. In spite of perfect potentia coeundi, a man with double gonorrheal affection of the seminal conducting apparatus is frequently sterile. Gonorrheal affections of the epididymus are therefore not only extremely annoying affections, lasting for a week or two, but may be most serious complications which absolutely prevent procreation.

In the woman gonorrhea advances from the mucous membrane of the cervical canal to the internal genitalia, and the whole internal apparatus, the uterus, the tubes and ovaries, and the peritoneum may become infected. The various affections that are thus caused may be briefly mentioned. The primary infection of the cervical canal usually gives no subjective symptoms. For this reason innumerable women are absolutely ignorant of the fact that they have been infected or that they carry with them a disease that may be communicated to others. The swelling and catarrhal inflammation of the cervical mucosa may present a mechanical hindrance to the entrance of spermatozoa into the uterus. Very subjective symptoms either in the form of persistent pain or in the form of recurring attacks of pain especially at the menstrual period may be caused by endometritis. Apart from the serious dysmenorrhea itself, this affection is a frequent cause of sterility. The implantation of the impregnated ovum is hindered, or after its implantation, abortion occurs. Should pregnancy continue to term, the endometritis is frequently a cause of dangerous bleeding. Puerperal infection often results and this in turn may produce persistent incapacity for all future conception, and may lead to what is called one-child sterility.

Should the infection reach the tubes an acute febrile affection with severe attacks of pain, combined with tumor-like swellings of the tube (salpingitis), occurs, which even in the most favorable cases keeps the patient in bed for weeks, and requires most careful treatment. Even after this the condition usually is not entirely cured, but leads to chronic persistent ill health with frequent acute exacerbations. These recurring acute attacks often become dangerous to life, so that operative interference and removal of the collections of pus by laparotomy becomes inevitable. Fatal peritonitis may result from gonorrheal salpingitis. When both tubes are affected there is every prospect of lasting sterility.

The most frequent and severe disturbances of health—they are also the most dangerous—arise from the extension of the inflammatory process from the uterine mucosa directly or through the tubes to the peritoneal surfaces of the ovaries. The peritoneal affections which result from this extension cause disturbances of menstruation, colic-like attacks of pain, and neurasthenic complications and sequelæ. Such occupy the attention of the gynecologist and every year bring to our watering-places an army of women suffering from pelvic disease. This constitutes the most serious result of gonorrhea in the female, and often leads to complete invalidism for years. These peritoneal affections, by causing mechanical disturbances in the position of the uterus and inflammatory adhesions of the uterus and its adnexa, may also be a fruitful cause of sterility.

The dangers we have pictured to which every woman infected with gonorrhea is liable are very much increased during the puerperium. At this time the extension of the gonorrheal process to the internal sexual organs is extremely easy. All of the complications of ascending gonorrhea that have been mentioned, especially "single-child sterility," are greatly favored.

The saddest feature in this whole picture of gonorrhea, the details of which we cannot stop to enumerate, is that once the infection has gained a foothold in the uterine mucosa, there is scarcely any medical treatment that is of any service. In spite of every effort that has been made to destroy the gonococci, most gynecologists have reached the conclusion that the surest and best hope for ultimate cure is to spare the woman as much as possible and provide her, as far as practicable, with absolute rest. Very naturally, however, it is just those women who most need their health and capacity for work—the women of the poorer classes—who are least able to follow the prescriptions of absolute rest in bed for weeks, perhaps months. As a consequence there develops among this class of patients those severe and often dangerous conditions which necessitate operations. Such operations are indicated not only from a purely medical standpoint but also from a humane and social point of view, since the operative removal of the diseased tissues will most surely and soonest lead to health and the ability to resume work. A double operation causes sterility, but this is not a consequence that is usually considered of any very serious importance.

2. The affection does not limit itself to the superficial mucous membrane, although this is

not the most often affected, but gives rise to other affections. (*a*) These affections result either from toxic products of the gonococcus producing effects at a distance from the original focus of infection, or from localized abscesses in the neighborhood of the urethra, which lead to the formation of cicatricial tissue in the neighborhood of the urethra. These peri-urethral abscesses in the male sometimes cause fistulæ or scars in the corpora cavernosa, and these interfere with erectile power, and hence disturb the potentia coeundi. Strictures of the urethra result, which not only disturb the evacuation of urine, but also interfere with the normal seminal evacuation. Frequently, in later years, these strictures cause severe bladder and kidney trouble, and their treatment requires time and expense. Only occasionally is operative interference of any use.

In the woman, suppuration of the Bartholinian glands occurs. This requires treatment with absolute rest in bed for several weeks, and not infrequently gives rise to annoying fistulæ, some of which may establish a connection with the rectum and later produce intractable rectal ulcers and strictures. (*b*) The gonococci may force their way into the connective tissue of the mucous membrane, and then find entrance into the lymph or blood circulatory systems, and so give rise to metastases all over the body. Such an invasion of gonococci gives rise: (1) To arthritic affections, most of which demand treatment for weeks or even months. Such often are subject to distressing repeated relapses during later life, occasioning serious disturbance of function. (2) They may cause affections of the cutaneous connective tissue of the glands or purulent affections of the tendon sheaths. (3) They may cause serious affections of the heart and the blood-vessels, endocarditis, pericarditis, phlebitis, etc. (4) They may even give rise to systemic intoxication through toxins produced by the gonococci, and so occasion cachexia and affections of the central and peripheral nervous system, or various erythematous, hemorrhagic, or hyperkeratitic forms of skin disease; or they may cause serious disturbances of the organs of the special senses; conjunctivitis, iritis, optic neuritis, etc. (5) Gonorrhea of the genital organs acquired by sexual intercourse is often the source of other localizations of the disease, which, for their part, cause severe systemic disturbances.

(*a*) *Gonorrhea of the Conjunctiva.*—Besides the comparatively rare infections of this kind in adults it is well-known how frequent is blenorrhea neonatorum. This affection is caused in the majority of cases by the infection of the child during labor with the gonococci, which are present in the mother's genital canal. In a goodly proportion of the cases it leads to loss of the infected eye, and when the affection occurs on both sides, is a frequent cause of total blindness.

(*b*) *Gonorrhea of the Mucous Membrane and the Rectum.*—This affection occurs mostly in women as a consequence of the infection of the rectal mucosa by secretions flowing down from the genitalia. Ulcerative lesions and purulent conditions of the connective tissue around the rectum are sequels which eventually cause stricture, and thus induce permanent invalidism. Sometimes in men and boys, as well as in women, direct infection of the rectum takes place through anal coitus.

(*c*) *Gonorrhea of the Oral Mucous Membrane.*—This occurs very seldom and has not much significance.

Very naturally no exact statistics exist as to the frequency of these complications, sequelæ, and metastases, nor of their proportion to the number of infections. There are many reasons for this: (1) In many cases the true character of the arthritic and heart affections is not recognized; they are not considered the sequelæ of a preceding gonorrhea; (2) these severer forms of gonorrheal affections come much more frequently under medical treatment, and especially enter oftener into the statistics of hospitals, clinics, and so forth, than does uncomplicated gonorrhea. All of our reports in this matter are therefore either too low or too high. One thing alone is certain, and that is that thousands and even tens of thousands of people, men and women, are to be found in every civilized country whose health has been seriously undermined, whose capacity for work greatly lessened, and who owe their state of chronic invalidism to gonorrhea.

I limit myself here to a few statistics which seem to give an approximate idea of the frequency and significance of gonorrheal complications. The statistics of the Breslau physicians gave, out of 3699 cases of gonorrhea, 1002 complications, as follows: Cystitis, 356; epididymitis, 269; prostatitis, 85; strictures, 69; Bartholinitis, 67; vulvitis and vaginitis, 78; affections of the adnexa, 49, and arthritis, 29. The following tables bring together a number of individual statistics as to gonorrhea in the male. The first contains 28,787 cases, in which there were 27.1 per cent. of epididymitis and 17.8 per cent. of all other complications. A second table contains 256,261 cases of gonorrhea with 14.8 per. cent. of epididymitis. Both together give 16.11 per cent. of epididymitis in 285,048 cases of gonorrhea. A glance at the totals, as well as the details of these cases, shows how little such percentages are to be depended on. While the average occurrence of epididymitis is 16.1 per cent. the number of cases of this complication in individual statistics varies between 3.5 per cent. and 39.3 per cent. It is clear that these variations depend upon the differences of the material that came under the observation of the different reporters. In clinics and hospitals the admissions of cases of epididymitis will very naturally be disproportionately high in comparison with the statistics of polyclinics and out-patient dispensaries, while the last will be very much higher than the statistics gathered from private practise. The best average, it seems to me, can be gathered from the reports of the Breslau physi-

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cians. Since we have in these all the sources of error combined to more or less neutralize one another. The Breslau statistics give 8.89 per cent. of epididymitis.

Unfortunately there is one factor which has not been sufficiently reckoned with in making up the statistics, namely, the method of treating uncomplicated gonorrhea. It is surely beyond doubt that frequency of complications depends on the method of treatment and can, therefore, be very much lessened if a proper method of treating gonorrhea is instituted as soon as it makes its appearance. With reference to the complications of gonorrhea in the female we have insisted on the importance of these before. It is rather shocking, then, to learn that Saenger finds that not less than 50 per cent. of the women who come to him with gonorrhea develop severe complications, while Schultz and others report 33.3 per cent. Herzfeld found 18 per cent. of gonorrheal adnexa affections in the whole gynecological material of Schauta's polyclinic; Lier-Ascher reports 31 cases of urethritis and endometritis and 68 cases of tubal affections in 95 women suffering from gonorrhea. In my opinion these figures are too high, since we have not included in them the simple gonorrheal infections without complications. I am of the opinion that Bumm is more nearly right when he places the proportion at 14 per cent. of uterine complications and 3.6 per cent. of tubal complications in gonorrhea.

A special mention and word of warning is due to gonorrheal arthritis, because of its frequency, its slow-running course, and tendency to relapses, with ankylosis and disability. At times even suppuration of the joints results and constitutes it a very serious affection for the working classes. Gerhardt found in 928 cases of arthritis that 7.43 per cent. were gonorrheal in origin. In 4423 cases of gonorrhea Gricolle found 68 cases of arthritis (1 in 6.5). Koenig found in two years in his surgical clinic at Berlin no less than 56 cases of gonorrheal arthritis. Of these 56 cases, 38 were in women, which is a striking bit of evidence of the extreme frequency of gonorrhea in the female, since it often remains entirely unnoticed. Rindfleisch, in Bergmann's clinic in Berlin, found in one year 19 cases of gonorrheal arthritis.

(To be continued.)

EXPERIMENTAL TESTS AT VERA CRUZ, MEXICO, OF THE DOTY-FITZPATRICK SERUM FOR THE PREVENTION AND CURE OF YELLOW FEVER.

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THROUGH the kindness of Dr. Edward Liceaga, President of the Board of Health of Mexico, I was commissioned to assist Dr. Barnard E. Baker, deputy of Dr. Alva H. Doty, Health Officer of the Port of New York, in the bacteriological experiments and investigations made at Vera Cruz with the serum obtained from the Health Department of the City of New York.

Before speaking of the results it seems advisable to me to explain the experiments and the technic employed in obtaining the serum that was expected to be curative and preventive of yellow fever.

According to Dr. Charles B. Fitzpatrick, director of the bacteriological laboratories of the New York Health Department,[1] the advantages of the serum treatment in yellow fever were very manifest, and it was, therefore, with the view of obtaining a serum for the treatment of this disease that a series of experiments were begun in the laboratories of the department by Dr. Alva H. Doty.

The work, preliminary to the preparation of the serum, was to obtain pure cultures of the microorganism that bears an etiological relation to the disease. In March, 1897, he isolated a microorganism from the blood of three cases of yellow fever which he described as bacillus coli icteroides, regarding it as a special and virulent form of the bacterium coli commune. Comparisons made afterward with the bacillus icteroides sent by Sanarelli led him to conclude that these two organisms were practically the same, and their pathogenic powers convinced him that they bore an etiological relation to yellow fever, notwithstanding their intimate connections with the bacillus coli commune. The methods employed in the immunization of the animals with the bacillus icteroides were essentially the same as those the author used to obtain the diphtheria antitoxin serum, and the cultures used to produce the toxins with which animals were inoculated were the cultures of the bacillus icteroides which Dr. Sanarelli sent to the health officer's department. Two horses were selected for immunization in order to obtain from their blood the preventive and curative serum. The injection fluids were composed of the living cultures or the filtered cultures. The cultures were allowed to grow at 37° C. (98.6° F.) for about twenty-five days and then filtered; the filtrate contained a toxin of varying strength.

The intrajugular injection of two or three hundred cubic centimeters of the toxin generally caused a temperature reaction of two degrees C. in a horse that had previously undergone the process of immunization for fifteen months. Subcutaneous injections of the living cultures were not well tolerated and caused extensive necrosis of the tissues. The toxin injections were better tolerated but were not so satisfactory as the intravenous injections of the filtered toxins. The necrosis of the subcutaneous tissues resulting from extravasations of intravenous and subcutaneous injections was so extensive that it resulted in the death of one of the horses. The

[1] Report to the Board of Health, Mexico.

[1] "Notes on the Treatment of Yellow Fever with the Blood-serum of the Bacillus Icteroides," Medical Record, July 1, 1899.

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virulence of the culture used has varied. The original culture sent to the laboratory by Dr. Sanarelli, when injected in doses of ½ c.c. or more, intraperitoneally, caused the death of a guinea-pig weighing 300 grams in about seven days. On increasing the virulence of the culture so that the subcutaneous injection of ½ c.c. caused death, the results were as follows: (1) Guinea-pig, weight 235 grams, inoculated subcutaneously with 1 c.c., died in six days. (2) Guinea-pig, weight 235 grams, inoculated subcutaneously with 2 c.c., died in three and one-half days. (3) Guinea-pig, weight 260 grams, inoculated subcutaneously with 3 c.c., died in two and one-half days.

"It may readily be seen from the above," says the author, "that the culture does not cause in guinea-pigs a disease with a definite cycle or an infection which has a definite period of incubation and development. The intensity of the infection depends upon the dose. With a similar dose death takes place in some cases as late as nineteen days after the injection. The character of reaction in horses has been that of a direct rise of temperature within twenty-four hours and a fall to about normal within the next twenty-four hours. Subcutaneous injections and extravasations from the veins caused a more gradual descent, or a fall followed by a rise." The horse which lived was first injected in January, 1898, and was methodically injected, at the proper intervals, until June 15, 1899. The blood-serum of this horse first began to show therapeutic properties on October 18, 1898. The serum of that date was effective to the extent that when the guinea-pigs were inoculated with a fatal dose of culture of the bacillus icteroides, two of which had twelve hours previously received an injection of the blood-serum, the two remained alive two and three days longer than the remaining guinea-pig which had not received the serum treatment.

1. Guinea-pig, weight 245 grams, received a subcutaneous injection of 2 c.c. of serum November 6, 1898, and twelve hours later was inoculated with a fatal dose of the culture. Died November 14, 1898.

2. Guinea-pig, weight 255 grams, received a subcutaneous injection of 1 c.c. serum November 6, 1898, and twelve hours later was inoculated with a fatal dose of the culture. Died November 15, 1898.

3. Guinea-pig, weight 255 grams, received no injection of the serum and was inoculated November 6, 1898, at 9 P. M. as above. Died November 12, 1898.

The succeeding experiments gave varying results. A much stronger serum was obtained, however, on May 2, 1899. Fourteen cubic centimeters of this, when injected into a guinea-pig, which was at the same time injected with a fatal dose of the culture, cured the animal so injected. If it had not received the sereum injection, it would surely have died, as was proved by the death of another and larger guinea-pig that was injected with a fatal dose of the culture at the same time, and under exactly the same conditions as the one treated and cured by the serum. The one which died eighteen days after the inoculation, although a larger and much stronger animal than that which was cured, was treated in every way the same as the cured one with the single difference that the one that died did not receive any injection of the serum. A smaller dose of the serum (10 c.c.) succeeded in preventing the infection in a guinea-pig injected with a fatal dose of the bacillus icteroides, twenty-four hours later. The control guinea-pig which was inoculated at the same time and which had received no serum, died in nine days. Both the guinea-pig that was cured and the one in which the infection was prevented have remained alive and well over a month since the death of the animals which received no treatment with the serum.

Examples Showing the Preventative and Curative Action of Serum.

1. Guinea-pig, weight 350 grams, received 14 c.c. serum at 4 P. M., May 3, 1899; one hour afterward it received 3 c.c. of culture. It has remained alive and well. A control guinea-pig, weight 390 grams, received no serum but was inoculated with 3 c.c. of the same culture as the above. It died May 21, 1899.

2. Guinea-pig, weight 330 grams, received 10 c.c. of serum at 4 P. M., May 3, 1899, and twenty-four hours afterward was inoculated with 3 c.c. of the culture. It has remained alive and well. A control guinea-pig, weight 330 grams, received no serum as above, but was inoculated with 3 c.c of the same culture. It died May 12, 1899.

Serum obtained May 31st has also shown about the same strength as the serum obtained on May 2d. Ten cubic centimeters of the serum were sufficient to prevent infection and death in a guinea-pig 300 grams in weight, although a much heavier guinea-pig, 372 grams in weight, inoculated at the same time and which received no serum treatment died on June 16th.

The serum, so prepared, concludes the author, compared by a series of experiments with the serum obtained from the laboratory of Dr. Sanarelli, in Montevideo, Uraguay, has given more uniform results than the South-American serum.

Injections Made with the Curative Serum at Vera Cruz.

Case I.—Manuel Rodrigues, thirty-five years of age, native of Hidalgo, has been in Vera Cruz two months, entered the Military Hospital July 10, 1899, at 4 P. M. Disease began on July 9th at 11 A. M. with chills, headache, and pains in the back. He did not feel pain in the stomach and did not vomit. At the present time, July 11th, the conditions are as follows: Sandy tongue, slightly reddish at the tip and edges, eyes bloodshot, gums reddish and somewhat swollen, urine albuminous. His temperature on the day of entrance, 39.3° C. (102.6° F.); to-day at 8

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A. M., 39.5° C. (103.1° F.); pulse 92, regular and strong, no vomiting. At 9:40 A. M. he received an intravenous injection of 15 c.c. serum; temperature immediately after injections 39.4° C.; pulse 80; the patient did not suffer pain. At 10:40 A. M. temperature 39.4° C. (103° F.); pulse 80; 2:30 P. M., temperature 40° C. (104° F.), pulse 76; 6 P. M., temperature 39.5° C. (103.1° F.), pulse 76.

July 12th: Headache, eyes still bloodshot and slightly jaundiced; albumin in urine in larger quantity than yesterday, above 25 per cent. At 8:30 A. M. he received an intravenous injection of 20 c.c. serum, and another subcutaneous injection of 10 c.c. Temperature and pulse were as follows: 7:30 A. M., temperature 39.3° C. (102.6° F.), pulse 64; 7:20 P. M., temperature 39.6° C. 103.3° F.), pulse 72. The same conditions prevailed during the day with the exception of the febrile reaction, caused by the injections. Pulse very weak; nausea, without vomiting.

July 13th: Same condition, slight headache, jaundice of the eyes, albumin in the urine in the same proportions as day before; no delirium. Temperature and pulse as follows: At 8 A. M., temperature 39° C. (102.2° F.), pulse 64; 5:30 P. M., temperature 39.3° (102.6° F.), pulse 72; an adynamic condition; pulse very weak; no vomiting; urine albuminous; he was not given an injection.

July 14th: Pulse very weak; adynamic condition more marked, gums more reddish and swollen; no vomiting, nor pain in the stomach; a great deal of albumin in the urine. Temperature and pulse: At 8 A. M., temperature 38.6° C. (101.4° F.), pulse 72; 12 M., temperature 38.5° C. (101.2° F.), pulse 76. He received four subcutaneous injections of 15 c.c each at 12, 3, 6 and 9 P. M.; 6 P. M., temperature 38.8° C. (101.8° F.), pulse 84

July 15th: He had some vomiting of mucus; prostrated condition; tongue red and dry; eyes jaundiced; albumin in the urine, about 15 per cent.; pain in the regions injected. Temperature and pulse: At 6 A. M., temperature 37.7° C. (99.9° F.), pulse 80; 6 P. M., temperature 38.4° C. (101° F.), pulse 87. He received three subcutaneous injections, each of 15 c.c. of serum, at 1:30, 4:30, and 7:30 P. M.

July 16th: He continued during the preceding evening in the same condition of depression, and during the night had hiccough, and involuntary urination and defecation. At 8 A. M. very grave condition; weak pulse; dry tongue; hemorrhage from the left ear; gums much swollen but not bleeding; jaundiced condition pronounced; hiccough and dorsal decubitus; flies on the face and hands of the patient. Temperature and pulse: At 8 A. M., temperature 38° C. (100.4° F.), pulse 72; 12 M., 37.4° C. (99.5 F.), pulse 80; 6 P. M., temperature 38° C. (100.4° F.), pulse 80. No injection of serum as the case appeared very desperate.

July 17th: Same conditions; hiccough ceased; albumin in urine, 10 per cent. Temperature and pulse: At 7 A. M., temperature 37.8° C. (100° F.), pulse 72; 4 P. M., temperature 38° C., pulse 70; 6 P. M., temperature 37.5° C. (99.5° F.), pulse 78.

July 18th: Hiccough returned, although the general condition is not so bad; moist tongue; albumin 15 per cent.; icterus excessive in the eyes; no vomiting. July 19th: Normal temperature; out of danger and on the road to recovery.

Case II.—Rafael Veloz, thirty-six years of age, nurse in the Military Hospital of Vera Cruz. He arrived eleven days ago in Vera Cruz from the City of Mexico. He became ill on July 10th at 4 P. M. Had chills and fever; headache and pain in the back; pain in the stomach and vomiting. At 9 A. M. on the 11th his condition was as follows: Face and eyes bloodshot; tongue coated, red at the tip and on the edges; copious vomiting of mucus; tenderness in the stomach; headache; pain in the back; gums injected; no albumin in the urine. At 9 A. M. he received an intravenous injection of 20 c.c of serum obtained on May 31, 1899, and a subcutaneous injection of 10 c.c. of the same serum. Temperature and pulse: At 8 A. M., temperature 39.8° C. (103.6° F.), pulse 108; injection; 2:30 P. M., temperature 40.4° C. (104.7° F.), pulse 108; 6 P. M., temperature, 39.8° C. (103.6° F.), pulse 110; 9 P. M., temperature 39.8° C. (103.6° F.), pulse 108. In the evening the same conditions prevailed; frequent vomiting; albumin in the urine about 25 per cent.

July 12th: Same condition. Vomiting and tenderness in the stomach; headache; pain in the back; slight icterus in the eyes; very rough tongue; gums very red; pain in the pectoral regions, where he received the subcutaneous injection. At 7:45 A. M. he received an intravenous injection of 20 c.c. of serum and a subcutaneous injection of 15 c.c. of the same serum. Temperature and pulse: at 7:30 P. M., temperature 39° C. (102.4° F.), pulse 88; 11 A. M., temperature 39° C. (102.2° F.), pulse 86; 7:20 P. M., 38° C. (101.8° F.), pulse 80; in the evening no change; very albuminous urine.

July 13th: Great tenderness in the gastro-hepatic region; albumin and biliary pigment in the urine; eyes jaundiced. No injection of serum was given. Temperature and pulse: At 8 A. M., temperature 38.4° C. (101.1° F.), pulse 88; 12 M., temperature 39.4° (102.9°F.), pulse 88; 5:30 P. M., temperature 38.3° C. (101.1° F.), pulse, 88; in the evening same condition.

July 14th: No range in his condition; albumin in the urine about 20 per cent. He received three subcutaneous injections, each of 15 c.c. of serum, at 12:30, 4:30, and 8:30 P. M. Temperature and pulse: At 6 A. M., temperature 39.3° C. (102.7° F.), pulse 90; 6 P. M., temperature 39.4° C., pulse 92. In the evening vomited black matter.

July 15th: No more vomiting. Great pain in the region where he received the subcutaneous injections; icterus more pronounced; bilious and albuminous urine. He received three subcutaneous injections, each of 15 c.c. of serum, at

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1:30, 4:30, and 7:30 P. M. Temperature and pulse: At 6 A. M., temperature 38.7° C. (101.6° F.), pulse 100; 12 M., temperature 38.6° C. (101.5° F.), pulse 90; 4 P. M., 39.4° C. (102.9° F.), pulse 98.

July 16th: Same condition; bleeding from the gums; restlessness; albumin in urine about 15 per cent. Temperature and pulse: At 6 A. M., temperature 38.4° C. (101.1° F.), pulse 90; 4 P. M., temperature 38.1° C. (100.6° F.), pulse 88.

July 17th: Condition very grave; gums bleeding; no more vomiting; pain in the stomach and in the places injected. On account of the grave condition of the patient he received no further injections.

July 18th: Condition extremely grave; restless; complaining; blood in the mouth; scanty and albuminous urine. Patient died at 12:15 P. M.

Autopsy.—At 1 P. M. Body very yellow (icterus post-mortem). Hypostatic spots in the neck and in the back; cellular tissue very yellow; blood in the mouth; liver slightly enlarged and yellow, resembling a nutmeg liver. On sectioning the tissue it did not bleed and appeared in an advanced stage of fatty degeneration; spleen normal in shape, blackish, in a state of very intense congestion; tissue much altered, tears away easily; lungs normal; mucous membrane of stomach congested and hemorrhagic in spots; the stomach contained the characteristic black blood; kidneys congested, on sectioning, hyperemic, with yellow spots of fatty degeneration. Intestines in same condition as the stomach. Bladder contained a little urine.

Case III.—Juan Vega, Eighth Infantry, living in the Ulna Prison. He arrived at Very Cruz three months ago from Chilpanango (Guenro State). He was taken ill on the 11th of July, in the afternoon, with chills, headache, and pain in the back; no vomiting.

July 14th: Same conditions and some pain in the stomach. Since the 13th albumin had been found in the urine. Temperature and pulse: July 11th, in the evening, 38° C. (100.4° F.); July 12th, in the morning, 37.5° C. (99.5° F.); P. M., 40° C. (104° F.); July 13th, 11 A. M., 39.5° C. (103.1° F.), pulse 96; 12:30 P. M., 39.1° C. (102.4° F.), pulse 96; 7:30 P. M., 39.3° C. (102.6° F.), pulse 96. At 10:30 A. M. he received a subcutaneous injection of 30 c.c. of serum, and another injection every four hours of the same quantity; that is to say, 90 c.c. in the daytime.

July 14th: Same condition. Eyes injected and slightly jaundiced; tongue coated and red at tip; swollen gums, and pain in the stomach; very frequent mucus vomiting; albumin in the urine, about 15 per cent.; at 6 A. M., bloody stools. He received four subcutaneous injections at 10:30 A. M., 30 c.c. of serum; at 1:30 P. M., 20 c.c. of serum; at 4:30, 20 c.c. of serum; and at 7:30, 20 c.c of serum. Temperature and pulse: 6 A. M., 39.1° C. (102.4 F.), pulse 96; 10:30 A. M., 38.5° C. (101.3 F.), pulse 104; 1:30 P. M. 39° C. (102.2° F.), pulse 108; 7:30 P. M., 38.7° C. (101.6 F.), pulse 106. Condition very grave during night-time. Delirium and hiccough.

July 15th: Convulsions; eyes jaundiced; pain in the stomach; swollen gums; albumin in the urine, about 60 per cent. Shortly before death there was the characteristic black vomit. Temperature and pulse: 6 A. M., 37.5° C. (99.5° F.), pulse 108; 3 P. M., 37.1 C. (98.8° F.), pulse 112.

Autopsy.—The body was rigid and very yellow; black blood in the mouth; hemorrhagic focus in the place of the first injection; liver of normal size and of color of dead leaves. A section of the liver showed fatty degeneration; the spleen was normal in size, softened, and dark in color; the kidneys were enlarged, hyperemic, and in some points there was fatty degeneration of the renal epithelium; no urine in the bladder; lungs show congestion at the base; the heart was found to be very pale, but apparently of normal size and condition; the stomach was very much congested, showed some hemorrhagic spots in the mucous membrane; the intestines presented similar changes.

Case IV.—Amelio Canales, twenty-five years of age, Eighth Infantry at Ulna. He arrived at Vera Cruz eight months ago from Puebla. He was taken ill on the 12th of July in the afternoon, with chills, pain in the back and headache, pain in the stomach, and vomiting of food and drinks. Same condition on July 13th; tongue coated and red at the tip; gums swollen and epigastric tenderness. Temperature July 12th, in the morning, 40° C. (104° F.); in the evening, 39° C. (102.2° F.); temperature of July 13th, in the morning, 38° C. (100.4 F.); in the evening, 39° C. (102.2° F.); July 14th, same condition; headache; pain in the back; albumin in the urine; conjunctivæ much bloodshot. He received four subcutaneous injections each of 30 c.c. of serum, at 11:30, 3:30, 7:30, and 11:30 P. M. Temperature and pulse: 6 A. M., 39.5° C. (103.1° F.), pulse 80; 11:30, 39.5° C. (103.1° F.), pulse 84; 7:30 P. M., 39.1° C. (102.2° F.), pulse 92; 11:30 P. M., 37.5° C. (99.5° F.), pulse 86.

July 15th: Same conditions; swollen gums; no icterus; some pain in the stomach; bilious stools; very little albumin in the urine, about 5 per cent. He received four subcutaneous injections of 30 c.c. each of serum, at 9:30, 1:30, 5:30, and 9:30 P. M. Temperature and pulse: 6 A. M., 38.9° C. (102° F.), pulse 98; 9:30 A. M., 38.5° C. (101.3° F.), pulse 86; 1:30 P. M., 39.3° C. (102.7° F.), pulse 102; 5:30 P. M., 38.3° C. (101.1° F), pulse 92; 9:30 P. M., 38° C. (100.4° F.), pulse 90.

July 16th: Eyes slightly jaundiced; gums somewhat swollen; has no vomiting nor headache; very little albumin in the urine. Temperature and pulse: 6 A. M., 38° C. (100.4° F.), pulse 94; 10 A. M., 38.8° C. (101.8 F.), pulse 92; 6 P. M., 39° C. (102.2° F.), pulse 88. July

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17th: Eyes jaundiced; recovery began in the morning. Temperature and pulse: 37.5° C. (99.5° F.), and pulse 84. July 18th: Temperature, A. M., 37° C. (98.6° F.), pulse 70; P. M., 36.5 C. (97.7° F.), pulse 66.

July 19th: Temperature, A. M., 36.0° C. (96° F.), pulse 60; gums bleeding a little; eyes still bloodshot and more jaundiced; very little albumin in the urine; convalescence.

Case V.—Pedro Hernandez, twenty-three years of age, Twenty-third Infantry. He arrived at Vera Cruz two months ago from Guanajuato; entered the Military Hospital July 19th. He became ill July 18th at 1 o'clock A. M., with slight chills, fever, headache, and pain in the back; without vomiting or pain in the stomach. In the evening the eyes were bloodshot, temperature 39° C. (102° F.), pulse 88. No albumin in the urine; apparently a very slight attack of the disease.

July 19th: At 8 A. M. the temperature was 38.3° C., pulse 64; same conditions; no vomiting; small amount of albumin in the urine; coated tongue; gums injected; no pain in the stomach. He received of serum No. 1, without carbolic acid, obtained on June 30, 1899, four subcutaneous injections as follows: 8 A. M., 30 c.c.; 12 M., 30 c.c.; 4 P. M., 30 c.c.; 8 P. M., 45 c.c.; total amount of serum injected, 135 c.c. in twenty-four hours. Temperature and pulse: 8 A. M., 38° C. (100.4° F.), pulse 64 (first injection); 12 M., 40.3° C. (104.5° F.), pulse 80 (second injection); 4 P. M., same (third injection); 8 P. M., 40.6° C. (105.1° F.), pulse 100 (fourth injection). In the evening the same condition prevailed, save for the reaction caused by the injections of serum.

July 20th: Same condition; no vomiting or pain in the stomach; about 1 per cent. of albumin in the urine; great pain at site of injection. Temperature, pulse, and injections: 8 A. M., 39.4° C. (102.9° F.), pulse 88, injection of 30 c.c. of serum; 12 M., 39.7° C. (103.5° F.), pulse 88, injection of 30 c.c. serum; 4 P. M., 39.7° C. (103.5° F.), pulse 88, injection of 40 c.c. serum; condition same as yesterday.

July 21st: Defervescence and beginning of the second period of the disease. Temperature and pulse: 8 A. M., 38.3° C. (100.9° F.), pulse 80; 12 M., 39.5° C. (103.1° F.), pulse 88; 4 P. M., 38.4° C. (101° F.), pulse 80.

July 22d: Same good condition. Gums reddish; little albumin in the urine. Temperature, 8 A. M., 37.8° C. (100° F.), pulse 80; at 4 P. M., 37.5° C. (99.5° F.), pulse 80; recovered.

Case VI.—Harlindo Guevara, twenty-four years of age. He arrived at Vera Cruz six months ago from Puebla, entered the Military Hospital July 25th, in the afternoon. He began to be sick July 24th, with chills, fever, headache, vomiting, and pain in the back and legs. He remained the same during the 25th, and on the 26th presented the following conditions: Eyes injected; gums reddish; tongue coated red at the tip and borders; epistaxis and nausea, and tenderness in the epigastrium; albumin in the urine. At 10 A. M. he received two intravenous injections of 21 c.c. and 25 c.c. of serum No. 1, obtained July 3, 1899; total serum injected, 46 c.c. Temperature and pulse: 10 A. M., 39.8° C. (103.7° F.), pulse 108, injection; 12 M., 40.2° C. (104.4° F.), pulse 110; 4 P.M., 40° C. (104° F.), Pulse 120. Intense reaction caused by the serum.

July 27th: Mucus vomiting; eyes injected; swollen gums; epigastric tenderness; headache and great pain in the back; 40 to 50 per cent. albumin in the urine. 8 A. M. subcutaneous injections of 25 c.c. of the same serum. In the evening the same conditions existed with mild conjunctival jaundice. Temperature and pulse: 8 A. M., 39.7° C. (103.5° F.), pulse 88, injection; 10 P. M., 40° C. (104° F.), pulse 116. In the evening reaction caused by the serum less intense than the one observed the day previous with the intravenous injection.

July 28th: Slight remission of temperature, pulse notwithstanding is frequent, indicating internal hemorrhage. In the morning he had a stool with slight traces of black blood; jaundice of eyes marked; vomiting less frequent; epigastric pain less intense; large quantities of albumin in the urine At 8 A. M. he received one subcutaneous injection of 25 c.c of serum. Temperature and pulse: 8 A. M., 38.3° C. (100.9° F.), pulse 104, injection; 4 P. M., 39° C. (102° F.), pulse 120. In the evening, black vomit; jaundice marked, and bad general condition.

July 29th: Same condition; extensive jaundice in the face; suppression of urine; gums swollen; pain in the stomach; pulse very weak and rapid; temperature, 8 A. M., 38.4° C. (101.1° F.), pulse 102; 4 P. M., 37.6° C. (99.7° F.), pulse 112. In the evening, condition of collapse; extremities cold. He had one darkly-stained stool, and died at 7 A. M. of the 30th, without convulsions.

Autopsy.—One hour after death, rigor mortis well developed, extensive jaundice, black patches in the neck and back, black blood in the mouth. The liver was larger than normal, yellow, and on section showed fatty degeneration. The spleen seemed enlarged, softened, and dark red. The kidneys were enlarged with areas of pyemia and fatty degeneration; the heart normal; yellow serum in pericardium, and congestion at base of lungs; stomach contained quantity of black blood with coffee-ground sediment attached to mucous membrane; mucous membrane of stomach and intestines hemorrhagic in spots though not necrotic.

Injections with the Preventive Toxin.

The Minister of War, complying with the request of the President of the Board of Health, ordered that the prisoners of the Military Prison at Vera Cruz who were willing should receive injections of the yellow fever preventive toxin. Only two of them availed themselves of the opportunity.

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Case I.—Enrique Charon, twenty-three years of age, arrived at Vera Cruz eight days ago from Guanajuato. He received on July 19th at 8 A. M., one hypodermic injection of ½ gram of the preventive toxin. Temperature and pulse: 8 A. M., 36.3° C. (97.3° F.), pulse 64, injection; 8 P. M., 37.7° C. (99.9° F.), pulse 88; a light local general reaction.

July 20th: 8 A. M. he received hypodermic injection of 1 gram of the toxin. Temperature and pulse: 8 A. M., 36.7° C. (98.1° F.), pulse 76, injection; 4 P. M., 38.7° C. (101.7° F.), pulse 76. Local reaction slight; general reaction more marked than before, evidenced by moderate fever with uneasiness and slight headache.

July 21st: 8 A. M. he received one injection of 2 grams of toxin. Temperature and pulse: 8 A. M., 37° C. (98.6° F.), pulse 88, injection; 4 P. M., 38.1° C. (100.5° F.), pulse 96. Feverish reaction moderate, affecting pulse more than temperature; headache slight.

July 22d: No injection; temperature, 8 A. M., 37° C. (98.6° F.), pulse 84; at 4 P. M., 36.8° C. (98.3° F.), pulse 76.

July 23d: 8 A. M., received hypodermic injection of 5 grams of toxin. Temperature and pulse: 8 A. M., 36.8° C. (98.3° F.), pulse 80, injection; 8 P. M., 38° C. (100.3° F.), pulse 82. Moderate reaction, slight chills and headache; no pain in the back and no vomiting.

July 24th: Normal condition; temperature at 8 A. M., 37° C., pulse 90.

Case II.—Albert R. Gil, thirty-two years of age. He arrived at Vera Cruz five months ago from Morelia. He received at 8 A. M. of the 19th of July a hypodermic injection of ½ gram of toxin. Temperature and pulse: 8 A. M., 36.4° C. (97.5° F.), pulse 76, injection; 12 M., 36.7° C. (97.9° F.), pulse 88; 8 P. M., 37° C. (98.6° F.), pulse 80. Local reaction; pain and swelling of the place injected, and a very general moderate reaction.

July 24th: The patient received at 8 A. M. a hypodermic injection of 1 gram of toxin. Temperature and pulse: 8 A. M., 36.8° C. (98.3° F.), pulse 68, injection; 4 P. M., 38.4° C. (101.1° F.), pulse 96. The general reaction was more intense than yesterday, with headache.

July 21st: Received an injection of 2 grams of toxin; temperature and pulse: 8 A. M., 36.7° C. (98.1° F.), pulse 76, injection; 4 P. M., 38.9° C. (102° F.), pulse 100. The feverish reaction was still greater, with headache and uneasiness.

July 22d: No albumin in the urine; no injection; temperature and pulse normal. July 23d: He received at 8 A. M. a hypodermic injection of 4½ grams of toxin. Temperature and pulse: 8 A. M., 37° C. (98.6° F.), pulse 90, injection; 4 P. M., 39.2° C. (102.6° F.), pulse 108; 8 P. M., 38.5° C. (101.3° F.), pulse 108. The feverish reaction was greater than that before registered, with more uneasiness and headache; no vomiting: no albumin.

July 24th: Normal condition.

While the experiments lasted Charon and Gil remained at the Military Hospital, and after July 25th they returned to the prison.

I also thought of injection of the toxin in the case of convalescents from yellow fever. In view of the effect of the toxin in the above experiments, made on men who were not immune, I suggested to Dr. Barnard E. Baker that the toxin be tried on men who had been rendered immune by previous attack of the disease, to see whether the reaction observed in the non-immune would differ, especially in the convalescent whose organisms still contained antitoxins. I also thought that in event of the absence of reaction after administering the toxin, there would be proof of the specific character of the bacillus icteroides that secretes the toxin. Nevertheless, Sanarelli demonstrates that the effect of his serum is not due to the existence of antitoxin substances, as in the case of anti-diphtheritic serum, and that dogs, which had been inoculated repeatedly for a year and could stand fatal doses, manifested, nevertheless, at each new injection, symptoms of vomiting, and were in a serious condition. This being the case, the preventive and curative serum of yellow fever, drawn from immune animals inoculated with Sanarelli's bacillus, would, I believe, present an analogy to the serum of typhoid fever, for in this case the preventive and curative action of the serum in animals is not due to the antitoxins, as may be seen from the fact that immune guinea-pigs are more sensible to the action of typhotoxin than the normal animal. This seems to indicate that there is a close analogy between the action of the bacillus icteroides and the pathogenic organism of typhoid fever.

Case I.—Donoteo Solis, twenty-six years of age, of the Eighth Infantry, entered the Military Hospital of Vera Cruz on July 21, 1899, sick with yellow fever. On July 25th, at 8 A. M., being convalescent, he received a hypodermic injection of 2 grams of toxin. Temperature and pulse 8 A. M., 36.7° (98.1° F.), pulse 64, injection; 12 M., 38.8° C. (101.9° F.), pulse 76; 8 P. M. 37.9° C. (100.3° F.), pulse 62. Slight reaction, with little headache and pain in the injected region. At 8 A. M., of the next day, normal conditions.

Case II.—Julio Ronzon, of the Eighteenth Infantry, entered on July 13, 1899, sick with yellow fever. At this date, July 25th, after thirteen days of illness, he is recovering. At 8 A. M. he received a hypodermic injection of 1 gram of toxin. Temperature and pulse: 8 A. M., 36.6° C. (97.9° F.), pulse 80, injection; 12 M., 37.3° C. (99.1° F.), pulse 88; 4 P. M., 38° C. (100.4° F.), pulse 84; 8 P. M., 37.9° (100.3° F.), pulse 100. Slight reaction; headache and pain in the place injected. Normal condition at 8 A. M. of the next day.

Case III.—Antonio Hemandes, sick of yellow fever. Received on the day after his entry a subcutaneous injection of 30 c.c of serum. In the evening temperature ascended to 40° C. (104° F.), and an erythematous eruption appeared, which was mistaken for that of measles. The

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later evolution of the disease confirmed the first diagnosis of yellow fever. The eruption was caused by the injection of serum. At 8 A. M. he received an injection of 1 gram of toxin. Temperature and pulse: 8 A. M., 36.8° C. (98.3° F.), pulse 62; injection; 12 M., 37.1° C. (98.8° F.), pulse 56. No reaction.

Case IV.—Martin Mirandi, sixteen years of age, Eighth Infantry, entered the Military Hospital on July 10th, 1899, very sick with yellow fever. He arrived in Vera Cruz fifteen days ago from the City of Mexico. July 26th, he received at 8 A. M. an injection of 2 grams of toxin; temperature and pulse: 8 A. M., 36.8° C. (98.3° F.), pulse 72, injection; 4 P. M., 38° C. (100.4° F.), pulse 68; 8 P. M., 37.6° C. (99.7° F.), pulse 60. Moderate reaction, with a little uneasiness and headache; pain in the place injected. At 8 A. M. of the next day was normal condition.

Case V.—Cristobal Mejia, twenty-three years of age, of the Twenty-third Infantry, arrived at Vera Cruz three months ago from El Corral. Entered the Military Hospital very sick with yellow fever, recovered on this date, July 26, 1899. He received at 8 A. M. a hypodermic injection of 3 grams of the toxin. Temperature and pulse: 8 A. M., 36.8° C. (98.3° F.), pulse 72, injection; 4 P. M., 39.5° C. (103.1° F.), pulse 92; 8 P. M., 38.4° C. (101.1° F.), pulse 90. Intense feverish reaction; severe headache and pain in the place; no vomiting. At 8 A. M.of the next day normal temperature and pulse.

Case VI.—Rodrigues (Case I., page 46). He received, July 26, 1899, at 8 A. M., a hypodermic injection of 3 grams of toxin. Temperature and pulse: 8 A. M., 37.7° C. (99° F.), pulse 60, injection; 4 P. M., 39.2° C. (102.6° F.), pulse 80; 8 P. M., 38.4° C. (101.1° F.), pulse 112. Very intense reaction; dry and hot skin; headache; pain in the region injected. At 8 A. M. of the next day, normal condition. To complete the preceding experiments it should be added that the blood of Guevara (Case VI.) and that of another patient of yellow fever, at the Military Hospital, did not show the agglutinating reaction of Widal in the cultures of Sanarelli's bacillus.

Conclusions.

1. Both intravenous and subcutaneous injections of the serum produce a general reaction, revealed by the hyperthermia and acceleration of the pulse.

2. The injections, both subcutaneous and intravenous, neither controlled the disease nor manifested in the patient the least reaction upon the appearance, development or duration of the symptoms of yellow fever.

3. It is not possible to form conclusions on the inoculation of the preventive toxin on account of the small number of cases and the short time employed.

4. The reaction caused by the injections of the toxin in the convalescents of yellow fever demonstrates Sanarelli's assertion that the curative powers of the serum, in animals, is not due to the antitoxin substances; and confirms by its analogy to the typhoid serum the opinion, given by some bacteriologists, that the icteroides is an Eberthiform bacillus.

REPORT OF A CASE OF SCORBUTUS IN AN INFANT.[1]

BY WALTER LESTER CARR, M.D.,
OF NEW YORK.

THIS report of a case of scorbutus in an infant may not present anything that is new, but the history is interesting in its clinical points.

A. H., female, twelve months of age, was brought to me because her mother felt that the baby was failing and that she had rheumatism or some disease that gave her a great deal of pain. The mother was delicate and anemic, with a negative family history. Both mother and father were Americans. An older child was rachitic. The hygienic surroundings were good.

The baby was born in the summer, when the mother was away from home. She was able to nurse the baby for only one week, when cow's milk was tried, but it was vomited and did not agree with the baby. Carnrick's soluble food with cow's milk was tried with fair result for one month, when the food alone was given for four weeks. Mellin's food, Imperial granum, peptonized milk, and kumiss were used for varying periods of three to seven weeks, but as each failed to agree with the baby a change was made. Barley water, with cream and milk-sugar, was tried for four weeks. Occasionally beef-juice was added to the other food. Eskay's food was given for the longest period—five months—but as the baby had diarrhea, with loose, slimy movements, the Carnrick food was administered during the summer. The baby had also bread, butter, and crackers. Occasionally she had a small amount of milk, but it was usually vomited or caused diarrhea. The white of an egg was sometimes the only food that was borne by the stomach. The baby had colic from the time she was six weeks old, and was also restless and uneasy. Dentition began when she was nine months old. She never tried to walk. Bronchitis as the result of an attack of "the grip" gave the baby a great deal of trouble. The mother said that for three weeks the baby had been restless and uneasy, and would cry out as if in pain. She did not sleep well and cried when the clothing was changed or when she was taken up. The movements of the bowels had been offensive, but did not contain blood. There had been no eruption or hemorrhage.

On my approach the baby began to cry, and gave every indication, by her expression, of suffering and fear. She was emaciated, poorly nourished, and weighed only eleven pounds. When the mother took off the clothing the baby showed

[1] Read before the Section on Pediatrics, New York Academy of Medicine, October, 1899.

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her thighs and legs semi-flexed. There was swelling over the lower third of the left thigh that did not extend into the joint. There was no heat, redness, or edema. The right thigh did not give as manifest signs, but it was tender and there was thickening under the periosteum. There was swelling around the ankles and tenderness above the malleoli. The mother thought these symptoms less evident than they were a few days before. All other joints and bones were normal. The skin was mottled, but had no hemorrhagic or petechial spots. The skin at the back of the head was moist. The mucous membrane of the mouth was reddened and the gums over the lateral incisors were dark blue and swollen so that the teeth could not be seen. There were four upper incisors but the swelling covered the two lateral ones. There was no hemorrhage from the gums. The tongue was quite clean and the mucous membrane did not exhibit any hemorrhagic areas.

The liver, spleen, and heart were normal; the lungs were affected by a slight bronchitis; the urine contained phosphates, but no albumin or blood. The blood was not examined. No further evidence was needed to show the disease to be scorbutus from improper food, although the rachitic signs were not as marked as in some cases of scorbutus in infants. Beef-juice, orange-juice, and a small quantity of fresh milk were ordered. A prescription for an opiate was written so that it could be used for excessive pain and restlessness.

In three days there were few signs of the scurvy. There was still a thickening of the left thigh but the baby could sit in a high chair, and rested well. The gums were not reddened or swollen. There was no interruption to the recovery and the opiate did not have to be administered. The satisfactory result of the anti-scorbutic diet was shown by the willingness of the baby to move the legs and thighs. The relief from pain came almost as soon as it could have been accomplished by doses of opium.

Discussion.

Dr. Koplik: The most important symptom of scurvy is the limitation of movement. This is, of course, due to the pain. The apparent paresis that results from the fact that any movement causes pain leads to all the mistakes of diagnosis. It is the first symptom that occurs at a very early stage of the disease, and if it at once leads to suspicion as to its real cause the diagnosis will usually be easy. Any limitation of movement then that occurs in small children, especially if they have been fed to a large extent on prepared foods, should at once lead to careful examination. In my experience it is necessary to use some sort of fruit juice in the treatment. Milk and meat juice do not suffice. I have had the best results with orange juice, which is always easily obtainable.

Dr. Abraham Jacobi: Some cases of scurvy in children begin with very unusual symptoms, and it is necessary for the physician to be on his guard in order not to mistake them. For instance, I have had two cases in which hematuria was the only symptom. It began without warning, and at first there seemed to be nothing else that would lead one to suspect the presence of scorbutus. After careful search I found a slight lividity of the gum over the central incisors, and also some petechiæ. It is the immobility of these cases that gives rise to errors of diagnosis. It is mistakenly considered to be a symptom of two diseases in particular, acute anterior poliomyelitis and acute rheumatism. As for poliomyelitis there is no excuse for the error of diagnosis, for it is immobility from pain not inability to use the limbs that is present. For rheumatism there is perhaps more excuse, but usually in scurvy the joints are not affected, and if the limb is supported the joint may be moved without causing pain. Very rarely in scurvy are there hemorrhages into the joints, in which case, of course, the similarity with rheumatism is very marked. As a rule, however, there are very few exceptions, the lesions of scurvy in the bone are subperiosteal hemorrhages in the diaphysis of the long bones.

Dr. Heiman: The blood picture in scurvy is very similar to that of secondary pernicious anemia. There is a poikilocytosis, and a number of nucleated red corpuscles are noted. The red cells are very irregular in shape, and there are many microcytes and macrocytes.

Dr. Koplik: I have seen certain cases of hemorrhagic rachitis which it would be easy to mistake for scurvy. In a case of scurvy which I saw recently there were the thickened bone-ends that made me think of rickets, but the case cleared up completely on antiscorbutic treatment.

Dr. Carr, in closing: A few years ago these cases were very generally missed, but the study of scurvy has made it comparatively easy to recognize them now if the practitioner be only on the lookout for them.

CLINICAL LECTURE.

MYOMECTOMY PER VAGINAM COMBINED WITH SHORTENING THE ROUND LIGAMENTS FOR RETROVERSION, ETC.[1]

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Case I.—I shall bring before you this morning two cases. The first patient is a woman forty-three years of age, with the following history: She has been married twelve years and had one child eight years ago. Within two years thereafter she had two miscarriages, both of which

[1] A clinical lecture delivered at the New York Polyclinic Medical School and Hospital, December 8, 1899.

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were artificially induced. Since that time she has been suffering from backache, irritable bladder, and irregular menstruation. She says that during the past three months she has menstruated profusely six times.

Upon examination, as you may remember at our last clinic, we found a retroverted uterus and prolapsed appendages of both sides, all being firmly bound down by adhesions. We also noticed that just above the waist of the uterus in its posterior surface, there was a round, hard body which suggested either a sharp flexure of the uterus or a fibroid in its posterior wall. We have before us, then, a case of retrodisplaced uterus, with such firm adhesions as to preclude the possibility of accomplishing relief by any form of treatment short of surgical interference.

The surgical procedures that have been recommended and applied for the relief of this condition are manifold, and it becomes necessary, therefore, to choose that method which especially commends itself to the operator as applicable to the case in hand. The operations most popular at the present time are (1) abdominal incision through which the uterus and appendages are set free, and the displacement relieved by stitching the uterus to the abdominal wall; (2) shortening the round ligaments, or what is commonly known as the Alexander operation, and (3) anterior colpotomy, or the opening into the pelvic cavity through the anterior vaginal fornix, the breaking up of adhesions, and the relief of the displacement by shortening the uterine ligaments.

The first operation, while it is easy of accomplishment and is usually successful in holding the uterus in an anteverted position, has fallen into disfavor on account of the serious complications attending parturition after its employment. The operation, moreover, necessitates a laparotomy, which by conservative men is regarded as too serious a procedure for the relief of this condition. The Alexander operation at present is probably the most popular procedure for the relief of retrodisplacement. It has the disadvantage, however, of having a limited field of application, being indicated only in cases of simple retroversion in which the pelvis is free from adhesions and the appendages free from disease. Moreover, about 5 per cent. of the cases subjected to this operation suffer from hernia, single or double; in another 5 per cent. the round ligaments cannot be found, and, in all, the patients bear upon their persons two unsightly scars. It is only fair to say in this connection, however, that the field of operation has been extended to include cases of adherent uteri by first opening the posterior fornix vaginæ and setting the organs free by breaking up the adhesions.

The third operation, namely, the opening of the anterior fornix of the vagina and shortening the uterine ligaments through the opening, is the one that especially commends itself to me and the one which I shall apply in this case. The readiness with which this incision permits of treating the various common conditions which we find in the pelvis will be illustrated in the case before us, and as the patient is ready, I will proceed to give you a demonstration of the advantages of this mode of procedure rather than spend further time in dilating upon them. Working upon the principle that disease in the appendages has its early seat in the mucous membrane of the uterus, it is the invariable custom to make sure that the interior of the uterus is relieved of diseased conditions in all these cases to avoid any possible return of the disease. With the patient on the back, the hips well drawn down to the end of the table, as you see, I apply a self-retaining posterior retractor, thus bringing the cervix into view, which I catch by the anterior lip with bullet forceps. The cervix is then dilated until it will admit a sharp curette, which I now pass and go over the entire surface of the uterus, scraping away all soft and spongy tissue. The uterus is then irrigated through the cervical cannula with bichloride (1-3000), and then with normal salt solution. Through this same tube I pack the uterus comfortably full with a narrow strip of iodoform gauze. I now seize the cervix with the volsellum forceps, and make a transverse incision through the vaginal wall in front of the cervix corresponding to the first incision in the vaginal hysterectomy; through this I dissect off the the bladder from the uterus by dull dissection with the handle of the scalpel and with my finger until I reach the reflection of the peritoneum. Catching the edges of the vaginal incision near the middle point with the artery clamps, I draw down until the anterior vaginal wall is made taut, and then make a longitudinal incision throughout its entire length, beginning at the middle point of the transverse incision. The bladder is then dissected from the vaginal wall on either side of this incision for a distance of three-quarters of an inch. Removing the forceps and forcing my finger through the peritoneum at its reflection from the bladder to the uterus, and tearing it either side, I have a large, free opening through which to manipulate.

Passing my index finger along the anterior wall of the uterus and over the fundus, I find a false membrane reaching from the fundus to the rectum and stretched out either side along the free border of the broad ligaments, covering over the appendages of both sides. Keeping my finger in contact with the uterus, I thrust it through this membrane and strip off either side; this sets the uterus free, and by hooking my finger over the broad ligament near the horn of the uterus and forcing the cervix back into the posterior fornix of the vagina, by a little manipulation, as you see, I antevert the uterus and deliver it into the vagina.

I now remove the forceps from the cervix, and dragging the fundus of the uterus a little lower down, with my thumb and finger, I find the enlargement in the posterior wall, as you see, to be a fibroid tumor about the size of a hen's egg. By breaking up the adhesions about the appendages I set them free and am able to draw them down into the vagina for examination.

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I think from where you sit you can all see that these appendages, excepting where I have torn away the adhesions, seem perfectly normal. By passing this small silver probe into the Fallopian tubes we find them patulous throughout their entire extent. As the ovaries are healthy, no operative interference is indicated and we return them to the pelvic cavity. The relaxation of the ligaments maintained during these four or five years by the retroversion, give the uterus, now that the adhesions are broken up, unusual mobility, and I am able to draw the fundus well down to the vulva, and with this bright sunlight falling directly upon its posterior wall, I will proceed to remove the fibroid or do what we know as myomectomy.

I make a longitudinal incision through the peritoneum, the muscular wall of the uterus, and the capsule of the tumor. Using the handle of the scalpel, I readily shell out the tumor from its capsule, and we have, as you see, a solid fibroid mass. I now sew together the muscular wall of the uterus with a buried catgut suture, taking care by using sufficient force to draw the muscles taut over the gauze packing which fills the uterus. To avoid any raw surface upon the uterus and the danger of adhesions therefrom, I apply now four Lembert sutures of fine silk to close the incision through the peritoneum of the uterus.

We have now relieved the patient of the fibroid tumor, which, no doubt, was the cause of her frequent and excessive menstruation; we have set the uterus and its appendages free, and it now remains to shorten the round ligaments in order to maintain the uterus in its normal position. Rotating the uterus slightly upon its longitudinal axis, I catch the round ligament with an artery clamp about 1½ inches in this case from the uterus. Making traction upon the forceps I form a loop in the round ligament, the edges of which I stitch together with three sutures of fine silk. To dispose of this loop in the round ligament and further assist in maintaining its supporting power, I pass another silk suture through the point caught in the forceps and again through the fibers of the round ligament as they spring from the side of the uterus and pin it there by tying the suture. The round ligament of the opposite side is shortened in the same way, as much slack being taken as can be obtained.

The bladder is now restored to its normal position, and the longitudinal incision of the vagina closed by a running catgut suture; the transverse incision is left to take care of itself, although in some instances I also close that in the same way. A little gauze pack in the vagina completes the dressing, and a self-retaining soft rubber catheter passed into the bladder makes the patient ready for bed.

Case II.—In order that you may see the result of this vaginal work, I now show you a woman upon whom I operated one week ago. She appeared at the clinic with the following history: Age, thirty-four years; married twelve years, and the mother of two children, the youngest six years of age. She has suffered since her last confinement with severe and almost constant backache, pain over both ovarian regions, and a general ill health. Examination revealed a retroverted, adherent uterus, with prolapse of the appendages of both sides. Upon opening into the pelvis through the anterior vaginal fornix firm adhesions were found to exist on all sides, binding down the uterus and appendages, that were so extensive and reached down so low in Douglas' pouch that it seemed best to open Douglas' culde-sac to assist in breaking them up. The uterus and appendages were then delivered through the anterior incision into the vagina; the left appendages were found to be hopelessly diseased and were removed (as you will remember). Upon the right side we found a comparatively healthy ovary, but a club-shaped, occluded tube, with disease in its outer third; the tube, was, therefore, amputated at its middle point, the mucous membrane lining it stitched to the peritoneal covering around the entire circumference of the opening. This stump of tube was then attached near to the ovary and returned to the pelvis. After this the round ligaments of both sides were shortened by the method you have seen me employ to-day, and the uterus returned to its normal position in the pelvis. The operation was completed, as in the case that has just left us, with the exception that I passed some gauze into Douglas' pouch for drainage. The patient looks bright and cheerful, as you see, and tells us that she has had no pain since the operation, and is feeling well. This patient will be allowed to sit up at the end of the second week, and leave the hospital at the end of the third week. One of the advantages of this route of attack in cases of pelvic disease is the smooth and comfortable convalescence; there are no stitches to be removed, no adhesive plaster to be worn, and no abdominal supporters to annoy the patient for six months or a year; and yet in these two cases which we have seen this morning I have dealt with a variety of conditions in the pelvis that are thought by many to be satisfactorily dealt with only through an abdominal incision. An abdominal incision is a great misfortune to befall any woman, and, in my opinion, never should be resorted to in pelvic disease until an effort to relieve by the vaginal method has been tried and found to be impracticable.

MEDICAL PROGRESS.

Gangrene of Intestine.—A. E. Barker reports (*British Med. Journ.*, Dec. 23, 1899) two cases of primary enterostomy. In one case he removed about thirty inches of gangrenous small intestine and in the other about twelve inches. In both cases circular enterorrhaphy was performed by means of continuous silk sutures. In both patients the strangulation had occurred in an inguinal hernial sac. The writer says that the

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stomach should be washed clean with hot water and a little brandy before operation, and the patient should be well wrapped in flannel. During the operation a large enema of hot water and brandy should be given and hot saline solution should be injected hypodermically from time to time to make good the loss of fluid by vomiting, sweating, and respiration. Local analgesia with beta-eucain is advisable except for very nervous patients. These should be given chloroform. His further advice is to draw the affected loop well out until healthy tissue is in hand, empty the gut, and compress it with clamps; surround it with gauze and divide it. The cut through the lower limb may be made obliquely, so as to make the opening correspond in size to that of the upper distended limb. Close with a Murphy button or suture. Wash the gut with saline solution before returning it. Use no germicides on the intestine. If the sac is gangrenous use gauze drainage; otherwise the hernial sac may be obliterated and the ring sutured. Nutritive enemata alternating with hot-water enemata should be given every four hours.

Treatment of Tuberculous Peritonitis.—W. Cheyne (*Lancet*, Dec. 23, 1899) says that tuberculosis of the peritoneum appears clinically in three forms. The peritoneum may be studded with small tubercles scattered irregularly over its surface, without the formation of adhersions or omental contractions, and with or without fluid, which, if present, is either straw-colored or tinged with blood. When the finger is inserted into a peritoneal cavity in this condition it feels as if it had been pushed into a bag of boiled sago. Secondly, the tubercles may be in a condition of fibroid induration, with a matting together of the intestines and other viscera and a shrinking of the omentum. The mesenteric glands are enlarged but are not cheesy, and fluid if present is usually encapsulated. In the third condition of peritoneal tuberculosis the glands are greatly enlarged and caseated, and there are adhesions and contractions. The fluid is encapsulated and not infrequently purulent. It is a curious fact that more women are operated upon for this trouble than men, while at autopsy it is much more common in men. This may be in part explained by the fact that it is often discovered in women after a laparotomy has been performed for some other cause. Mortality is greatest in the caseous form of the disease and least in the dry adhesive form. In this form it is from 14 to 17 per cent. A study of operations upon 385 patients showed that 31 (8 per cent.) died from the immediate effects of operation, while 51 (13 per cent.) died within eighteen months from extension of the disease, and 53 (14 per cent.) were quite well two years after operation. A considerable number of the patients could not be traced, but making all due allowance for them it is undoubtedly safe to say that 50 per cent. of the patients operated upon for tuberculous peritonitis are cured. If medical measures fail to give relief in chronic cases in from four to six months, or in acute cases in from four to six weeks, the patient should be advised to undergo an operation. There is a disadavantage in operating too early, however, since recurrence seems more likely to follow under those circumstances. Unless easily gotten at, tubercular organs should not be removed. Evacuation of fluid by aspiration has not proved successful in curing tuberculous peritonitis, and it carries with it the risk of fatal puncture of the intestine. The best operation is a simple incision without the use of germicides or flushing of the abdomen. Firm adhesions should not be separated, but if there is intestinal obstruction anastomosis may be performed. If a pus-sac is opened it should be washed out. No drainage should be employed either in the presence of serous or purulent fluid. Improvement sometimes follows operation immediately and sometimes it begins after a lapse of ten days. Cheyne looks upon the improvement as similar to that which follows the opening of an abscess and evacuation of its pus. When the fluid is removed serum is poured out. Owing to the long continuance of the infection, the serum of the body has attained a certain bactericidal power which after operation is exerted upon the organisms in the cavity into which the serum is poured. This theory expains why a too early operation fails to stop the disease, for the serum at so early a stage may be supposed not to possess a sufficient antitoxin strength. Be the cause of improvement what it may, at a later period after operation the peritoneum is often found smooth, no adhesions being present. There is a favorable time to operate—not too early and not too late—after the formation of fluid and before adhesions become firm.

Transmission of Albuminuria.—M. Carrière (*Gaz. Hebd de Med. et Chir.*, Dec. 14, 1899) has observed a marked heredity in the children of albuminuric patients. In support of his opinion he cites the case of a patient, who, in the eighth month of pregnancy, presented marked albuminuria. She was at once placed on a milk diet, which, although it did not remove the albumin, checked the progress of the condition. Labor supervened, and on examining the urine of the child nineteen hours after birth, traces of albumin were found. A second examination, made twelve hours after the child was put to the breast, gave negative results. Investigation showed that the condition of the mother was probably chronic, dating back nineteen years to an attack of scarlatina in childhood. Carrière believes that the condition of the urine of the infant may be fairly taken to indicate a congenital renal lesion.

Mitral Stenosis and Air-Cure.—Mitral stenosis, as A. Surmount (*Gaz. Hebd. de Med. et Chir.*, Dec. 14, 1899) points out, may long exist without fatal result, provided one is careful to demand no greater labor of the impaired organ than it is capable of performing. It is especially necessary to prevent pulmonary complications and to

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this end an air-cure is recommended. Four years of personal experience has proven the therapeutic value of this measure to be truly surprising. The method must be followed constantly, day and night; conditions of the weather, even in northerly climates, offering but rare exceptions. He cites the case of a patient who for the last two and one-half years has never slept with the windows of her bedroom closed. Absolute repose is prescribed only so far as is needed to avoid heart-fatigue. Diet is to be adapted to the state of the digestive system. Over-alimentation is avoided as it is not desirable for the patient to take on fat. Under the influence of the air-cure pulmonary troubles rapidly amend, the troublesome asthma disappears, bronchitis is less frequent, the state of the heart improves with the disappearance of these complications, the pulse becomes regular, full and less rapid, the mitral stenosis in fact ceases to be a malady and once more becomes a simple cardiac malformation.

Acromegaly and Raynaud's Disease.—Of more than usual interest is A. Boettiger's article (*Münch. Med. Woch.*, Dec. 19, 1899) giving an account of a case in which both these rare maladies were present. The patient, twenty-one years of age, noticed as first symptoms, coldness, numbness and formication in the hands and feet which soon turned a dark-blue color. Neuralgic pains were absent. The paresthesiæ and discoloration, at first paroxysmal, soon became more intense and persistent. The patient's attention was soon attracted to an increase in size of the hands and head. Symptoms of intracranial pressure, eye-disturbances or rheumatic pains were absent, nor could any retinal or other ocular changes be demonstrated. The tongue was wider, the nose thicker, and a radiograph showed a decided increase in volume of the bones, and more particularly of the soft parts of the right arm and left hand. The skin of the palm was tough, hypertrophied and showed excessive cornification; the hands themselves were cold and moist, but the most prominent symptom was the bluish-black discoloration, mottled with a few irregular reddish spots, and extending above the wrists. The sensation of touch was perfectly normal, but pain was elicited only on penetrating for some distance into the skin. The susceptibility to heat and cold was much diminished. In discussing the case the author says that it is not the first one of its kind; indeed, there often are peripheral vasomotor neuroses in the beginning stages of acromegaly. There are, in short, close relations between the latter disorder and Raynaud's disease, since stasis is not rare in the one and swelling and thickening may occur in the other. In both the seat (hands, feet, nose, ears and later arms and legs) is the same, and similar pathologic vessel changes have been discovered. Boettiger does not believe in the hypophysis theory of acromegaly, but on the basis of the cited case develops a new explanation. It sems to him illogical to refer so general a disease to so small an organ; then, too, the fact that the pituitary body is so often diseased without acromegaly being present, and that symptoms directly referable to this body may be wanting in gigantism, make him conclude that the general belief is untenable. There are many arguments which favor the view that acromegaly is not caused by pituitary tumor. While there may be a certain relationship between the rapidity of growth of the latter and the amount of thickening in the bones, this is by no means constant. Granted that this disorder does not depend on a specific internal secretion, a cause for the hypophyseal hypertrophy must be sought. It is a well-known fact that poisons in the circulation, such as arsenic, alcohol, lead, etc., can cause changes in the peripheral parts of the body. There are also diseases dependent on the production within the body in some unknown way of toxin which can lead to vasomotor and trophic disturbances at the same sites. Raynaud's disease has been considered as such. It is probable that, due to heredity, constitution, diet, etc., toxins may be produced which have a selective action on certain tissues. Thus arthritis deformans and hypertrophic pulmonary arthropathy involve the bones; chemical poisons, diphtheria, etc., the nerves; scleroderma and myxedema, the skin, etc. Acromegaly also begins in the periphery and at its outset there may be symptoms of Raynaud's disease; it thus seems likely that leucomaines are the essential cause. The analogy is further borne out by the cerebral symptoms which suggest a toxemia. But where do these toxins come from? Most, no doubt, would say the hypophysis, but for this Boettiger thinks there is no proof. The case described was put on vegetable diet and treated with iodin, hydrotherapy, peripheral faradization and central galvanization with the most encouraging results.

Mercurial Inunctions.—Before a meeting of the Naturförscher und Aerzte in Munich Schuster (*Wien. Med. Blat.*, Dec. 21, 1899) read an article on the method of absorption of mercury when given in inunction. It has been stated far and wide that these inunctions simply produce a vapor of mercury about the patient which is constantly inspired with each breath and thence passed through the system. Schuster experimented upon himself with a view of determining the truth of this statement. He remained in bed for fourteen hours a day during two weeks, covered with a sack which had been prepared with blue ointment, as recommended by Welander. An examination of the urine showed the presence of mercuric iodid. After this, on nine successive evenings, he rapidly rubbed his thigh with the ointment, covering the area thus treated with parchment paper and rubber tissue, and then with a flat spatula he beat the dressings to facilitate the entrance of the mercury into the pores of the skin. Three gauze bandages completed the dressing and prevented its slipping. After wear-

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ing this for six hours, he removed the ointment each morning by means of cotton saturated with benzine. After this course of treatment, which did not permit of his absorbing the mercury by means of the lungs, he examined his urine and again found the mercuric iodid ring. Thus he proved satisfactorily that although the lungs may assist in the absorptive process, the skin undoubtedly does its share of the work.

Typhoid and Colon Bacilli.—A series of experiments has been undertaken by E. Unger and E. Portner (*Münch. Med. Woch.*, Dec. 19, 1899) to ascertain the value of Piorkowski's new method. The culture medium consists of urine which has been allowed to turn alkaline by remaining in the thermostat for two days, 3.3 per cent. gelatine and 0.5 per cent. peptone being then added and the mixture sterilized at 100° C. Seventeen hours after inoculation the following results were obtained: The colon bacillus formed circular, sharply circumscribed, light-brown colonies, while those of the typhoid germ appeared small, clear, colorless, oval or quadrangular, with numerous single or branching filaments three or four times longer than the body itself, or they may be shorter or longer. If allowed to grow longer at 22° C., the coli colonies will develop more rapidly, while in thirty-six hours the typhoid colonies will lose their transparency, take on a yellowish-brown color and elongate, their filaments not increasing much but becoming broader, more granular and surrounding the central body in a network. Differentiation, then, becomes more difficult. While the characteristic typhoid colonies invariably yield typhoid bacilli, colonies are not always obtained and a number of similar colonies of bacilli with shorter filaments are often seen, which may yield the bacillus coli, and are also obtained in the stools of diseases other than typhoid. The authors formulate the following rules: (1) Bodies with no filaments show that there is no typhoid present. (2) If bodies with long filaments are present the diagnosis of typhoid may be made. (3) Short-filamented colonies plus the clinical signs of typhoid point toward this fever, but without these symptoms the diagnosis is in doubt. The new culture-medium is, furthermore, valuable as but from two to three days are required to determine a diagnosis. By its use the earliest bacilli are found on the second day of the disease, and during its course their number will be in proportion to the severity of the diarrhea. They usually disappear on the eighth to the tenth day of convalescence, but have been seen five weeks after the subsidence of the fever. During a relapse they reappear sometimes in pure cultures. Blood from the roseola spots gives negative results, but in the urine they can be readily demonstrated, and the authors reach the conclusion that the existence of a true nephritis is not necessary to explain their presence there. Stab cultures made with the culture-medium show that the typhoid bacillus gives grayish lines with fine lateral branches, while the coli growths are larger and more sharply defined.

Analysis of Gastric Contents.—H. F. Hewes (*Boston Med. and Surg. Jour.*, Jan. 4, 1900) presents a new and simple method of quantitative analysis of the gastric contents for use in clinical work. The steps are as follows: (1) *Total free HCl.*—To 5 c.c. of unfiltered contents in a test-tube add a few drops of Töpfer's reagent. If free HCl. is present the mixture will assume a carmine-red color. To this add a decinormal solution of sodic hydrate by titration until the carmine changes to an orange, or a bright yellow. Multiply the number of cubic centimeters of the soda solution necessary to cause this change by .00365 gram, and the result is the amount of free HCl. in the 5 c.c. of contents. (2) *Total free Acids plus Acid Salts.*—To the same mixture continue to add the decinormal soda solution until a drop of the mixture fails to color Congo-red paper. All the free acids and acid salts are now neutralized. From the quantity of soda used up to this point the quantity of free acids plus acid salts in the contents can be estimated in the same manner as in the estimation of the free HCl. (3) *Total Acidity.*—To this neutralized mixture add two drops of a one per cent. alcoholic solution of phenophthalein. Continue to add the soda solution until a deep red of maximum intensity is obtained. The deep red color indicates an alkaline reaction. From the total quantity of soda solution used in neutralizing all acid elements the total acidity can be estimated. Now the quantity of total organic acids plus acid salts is obtained by subtracting the results of Test 1 from the results of Test 2. By subtracting the results of Test 2 from the results of Test 3 there is obtained the total combined acids, and by adding this result to the results of Test 1 the secreted HCl. is obtained. Hewes also gives methods of analysis when there is no free HCl. present, and the details of a test for combined HCl. when such is the case. Hewes uses these methods as a routine in his clinics in all cases of gastric affection.

Diphtheria.—Statistics in regard to diphtheria in the general hospital at Solothurn in Switzerland, from January 1, 1896, until August 15, 1899, have been compiled by Aug. Walker (*Correspond.-Blatt. f. Schweizer Aerzte,* Dec. 15, 1899) as follows: The mortality rate is still high, being 15.8 per cent. in the 315 cases reported. This statement must be modified, however, when it is seen that tracheotomy had to be resorted to in 177 cases, and that in these cases alone the mortality was 22.6 per cent. This high mortality is due to the large number of cases under one year of age in which the disease was already far advanced and in which the antitoxin serum has been found not as efficient as in older cases. Of the remaining 138 unoperated cases only 15 died —a mortality of about 11 per cent. These included both the simplest cases and the most advanced and dangerous cases in which it was too

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late to resort to tracheotomy. Even the death rate of the cases operated on (22 per cent.) should not be considered high, for so low a rate has never been attained before the serum treatment was introduced. At that time the mortality was frequently over 55 per cent.

A curious observation made by the author is that the worst cases came in from the outlying villages, while those from the city itself were both less severe and less persistent. There were many cases in which there was little or no fever. A temperature of 38° or 39° C. was the rule, while higher fever than this indicated always belonged to the worst cases and made the prognosis grave. Especially was this true if the temperature remained up for a long time as it indicated a severe accompanying bronchopneumonia. Cardiac weakness was seen less frequently than bronchopneumonia. In these cases the temperature is either normal or it sinks to a subnormal point, and the accompanying asthenia may at the slightest movement, such as the lifting of the child, lead to immediate collapse and death. The hemorrhage following tracheotomy is also extremely dangerous to the life of the patient. The paralyses, about which so much has been said and written as to their increase after the use of the antitoxin, did not occur with any greater frequency than before the use of the serum. Untoward results due to serum-therapy were seldom observed. No abcesses were produced thereby and exanthemata very seldom. In four cases a pemphigus eruption was observed, but all were cured of it—one however, dying from a complicating pneumonia. Intubation is not practised by the author and therefore no statistics regarding it are forthcoming.

Lupus Treated by X-rays.—P. M. Jones (*Phila. Med. Jour.*, Jan. 6, 1900) reports two cases of lupus treated by x-rays, one of which he thinks is the first so treated in this country. The first patient, a man fifty-five years of age, had had lupus on his right forehead for twelve years. He had been treated by the actual cautery, curetting, applications of creosote, silver nitrate, hydrogen dioxide, and by many other methods, which caused the lupus to heal temporarily. Later it would break down, ulcerate, and again heal. Each time it returned it was a little larger. At the time the x-ray treatment was begun the involved area was about one and one-half inches long by one-half inch wide. There were three ulcerating points. A sheet of lead was so cut as to protect all of the head except the lupus area. The hole in the lead was cut so as to protect one of the ulcerating points, as a control on the treatment. The patient was exposed four to six inches from a "soft" vacuum tube two to three times a week, the exposures lasting two to five minutes. At the end of four weeks the whole area was healed, with the exception of the one ulcer which had been protected. This was then exposed and was healed in three weeks. The lesion has remained healed. The second patient had had the disease thirty-five years. The whole right side of the face, including the ear, was involved when the treatment by x-rays was begun. The method of treatment was the same as in the previous case, but the exposures were a little longer, averaging five minutes each. Twice an inflammatory condition was caused by the exposures and treatment was suspended. A marked improvement was apparent each time as the inflammation subsided. The ear, being protected from the x-rays, remained unchanged, but the rest of the face improved and healed for the first time in twenty years. The writer is now treating the ear with the result that it has decreased in size and ulceration has ceased. The rays from a "soft" tube are more easily absorbed by the skin, and so are more efficacious in treating lupus. Jones believes that the method of treatment by ultra-violet light (Finsen) will prove better and more rapid than by x-rays.

Ophthalmia Neonatorum.—It was formerly considered that the cause of ophthalmia neonatorum was an improper exposure of the eyes of the child to light. It is now thought that its origin is nearly always gonorrheal, and that the infection comes from the maternal passages during parturition. The disease appears at any time between the second and eighth day after birth, therefore D. S. Reynolds (*Jour. Am. Med. Assoc.*, Jan. 6, 1900) holds that this fact contradicts the theory that the eyes are infected during delivery. Moreover, the staphylococcus aureus procreates in culture media within twenty-four hours, and in by far the greater number of cases the inflammation is due to its development—not to gonorrheal infection. The writer is thoroughly convinced that infection is due to unskilled attempts at washing the child's face or to meddling with its eyes. As to treatment, if seen in the earliest stage, a collyrium composed of sodium borate, grs. x; sodium chlor., grs. iii; ac. carbolic (cryst.) gr. ¼; distilled water, ℥i, should be used, 1 drop being instilled into the affected eye every half hour. When the discharge becomes purulent the same solution should be used with an irrigator, night and day, every half or every quarter of an hour according to the profuseness of the discharge. In cases of undoubted gonorrheal origin the irrigating fluid should consist if sodium chlor., ℥iii; bichloride of mercury, grs. iv; ac. carbolic, grs. xvi; water Oi. If there is extensive swelling of the upper lid a free canthotomy should be done, so that the lid can be everted and the eye thoroughly washed with the irrigator. In conclusion, Reynolds decides that the disease is always the result of contagion, the eye being infected during an attempt at practising Credé's method of prevention, or by the unclean hands of a nurse. The only way to prevent the disease is to avoid infection. The writer condemns very strongly the method of Credé of instilling nitrate of silver solution. When one eye alone is infected the well eye should be protected by a well-fitted watch-glass. Care should

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be taken not to cause any abrasions of the cornea, and inflammatory matter not removed by the irrigation should not be removed by any other means.

Diet in Typhoid.—Until recently the feeding of typhoid patients on a simple fluid diet has been so generally and uniformly accepted that physicians have learned to give the stereotyped milk diet without making any attempt to allow a more varied and extended regimen. During the last few years investigations have been made along these lines by several prominent physicians, among whom are Bushuyev, Shattuck, and Fitz. Morris Manges (*Med. Rec.*, Jan. 6, 1900) has given a review of the results obtained by the above investigators and has also reported his own somewhat limited experience in eight cases. Bushuyev treated eighty cases in the year 1896-1897, allowing a full diet, while another attending the same hospital (Russian) allowed only a diet of milk and one or two soft-boiled eggs to a series of seventy-four patients. The percentages in regard to deaths, recoveries, hemorrhages, and perforations, and the general conditions of the patients were slightly in favor of the series treated with a full diet. During the year 1897 he treated 318 patients, losing 26, or a percentage of 8.2. In addition to liquids, such as milk, tea, coffee, cocoa, and soups, he allowed solid foods, such as chicken, boiled meats, cutlets, and bread. In fact, he attempted to stimulate the appetite by a variety of palatable foods. Drs. Shattuck and Fitz of Boston have also obtained results which are signally striking and favorable. They, however, do not advise eating everything, but insist that the patient and not the disease be treated, and that he be fed with reference to his digestive power and not with reference to his fever. Special stress is laid upon the point that typhoid is a general toxemia and it is to this rather than any particular lesion that attention must be directed and the diet regulated. It is urged that the general nutrition must be maintained just as in cases of fever due to tuberculosis and suppurative germs, for the disease is one of considerable duration, and liquid food alone cannot replace the enormous waste. The fear of hemorrhage and intestinal perforation seems to be the cause of the restricted diet, according to most authorities, but it is maintained by the advocates of a full diet that the food is so changed by digestion, before it reaches the seat of typhoid ulcers, that it would have no more local effect than milk. The cause of a perforation is not the character of the food but the nature of the ulcer, since one never hears of the perforation of a tuberculous ulcer due to food. It is also urged that diarrhea and tympanities are increased by solids, but Bushuyev and Shattuck especially note that many of their patients were constipated. The determination of how many relapses may be due to the administration of solids is extremely difficult for the causes of this unfortunate condition are merely conjectured. The consensus of opinion seems to be that they are oftentimes due to the too early administration of solids, but the proportion of relapses in the cases reported by the several investigators was by no means larger than usual. The good results obtained in the cases in which this method of treatment has been tried certainly justified further experiments along the lines of a more extended and varied diet.

Influenza and Endocarditis.—In a meeting held on December 15, 1899, Jehle (*Wien. Med. Blät.*, Dec. 21, 1899) reported several cases of endocarditis in which he found influenza bacilli. Heretofore these bacilli have been found present in the kidney, in the spleen, in meningeal fluids and exudates, not to mention the lungs and pleuræ, in cases of pericarditis. In the cases mentioned the author described them as existing in exuberant growths on the aortic flaps in endocarditis. He obtained pure cultures of the bacillus from one case; in another the bacilli were associated with staphylococci. In one of the cases no disease of the lung could be demonstrated. Jehle further stated that these germs could make their way through the body not only in the lymph-channels, but also in the blood-vessels.

Epistaxis.—Bleeding from the nose used to be considered either a warning, a remedy, or a disease. The opinion that it is a disease is being more firmly established. F. C. Cobb (*Boston Med. and Surg. Jour.*, Jan. 4, 1900) thinks that it should really be called a symptom either of a lesion in the nose or of some general condition. The most common local cause is a deformity of the nasal septum. The deviation catches dust, this inflames the mucous membrane, and a scab is formed which is picked or scratched off, leaving an ulceration. Some time later this ulceration reaches a vessel and hemorrhage ensues. Fracture is very common among the local lesions causing epistaxis. Of all the constitutional diseases cited as general causes of epistaxis, Cobb has found nephritis to be the most common, and reports two cases. Epistaxis from this cause is usually severe, as the walls of the arteries are affected. Mild forms of epistaxis can be stopped by simple application of ice to the side of the nose, cold to the spine, or cold water injections. If hemorrhage is severe, a five to ten per cent. solution of cocain should be introduced on pledgets of cotton, and allowed to remain in for from five to ten minutes. If the bleeding does not cease, a ten per cent. solution of suprarenal capsule, made from tablets or powders, may be used. This acts magically but bleeding is apt to recur. If possible the bleeding point should be found and cauterized with chromic acid or the galvanocautery, after cocainization. If necessary to plug the nostril it should be done by introducing strips of gauze along the floor of the nose with long forceps. The packing should remain in for from twenty-four to forty-eight hours and very carefully removed.

Therapy of Dionin.—The excellent work which has been done by von Mering in searching for

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safe and efficient morphin succedanea has led to the discovery of a number of new synthetic remedies, the most recent of which, dionin, has been clinically examined by Th. Janisch (*Münch. Med. Woch.*, Dec. 19, 1899), especially with reference to its use in diseases of the respiratory organs accompanied by irritation and pain. The results have been highly gratifying. A number of cases of pulmonary phthisis are narrated in which dionin was successful in alleviating the cough, stopping the vomiting, diminishing the sweats and removing the insomnia without at the same time causing bad after-effects. The beneficial effects were no less startling in chronic bronchitis with emphysema. The author was thus stimulated to try the drug in the more acute affections, but noticed that here less uniform and prompt relief was obtained. His conclusions may be stated as follows: The sleeplessness is always remedied, although in cases in which large doses of morphin have been regularly administered previously, the drug often fails; mental dulness, nausea, and vomiting do not occur; diarrhea is often arrested, but constipation never results; expectoration is more free; the pains are ameliorated, and the night-sweats are less profuse. It is only in advanced cases of consumption, not necessarily complicated by laryngeal tuberculosis, that the irritation of the throat will demand the use of morphin. In asthma and allied conditions the employment of the latter drug, however, can be entirely dispensed with. Two or three daily doses of one-third of a grain or an evening dose of half a grain are recommended.

The same drug is discussed by Meltzer (*Münch. Med. Woch.*, Dec. 19, 1899) from the standpoint of the alienist. It had been previously shown that dionin possesses little superiority over morphin as a sedative in the various forms of insanity which are accompanied by severe excitement and emotional outbreak, but Meltzer is fully satisfied with the results he obtained in the mild hallucinations of females, especially in secondary dementia. The patients ceased to react to their morbid sensory disturbances, and in from a quarter to half an hour calm and quietude supervened. Excitement, such as occasionally occurs with hyoscine, did not appear, but as a soporific the drug seems to vary but little from morphin, it being not a true hypnotic but a sedative to the nervous system, causing this to react less readily toward external stimuli. Sequellæ, such as dulness of mind, palpitation, syncope, vomiting or increased excitement, have been experienced by the author in but three cases, and he recommends that the drug never be used when great excitement or irritability is present, or when the disease is of long duration or of great intensity. In comparing morphin with its various substitutes, the following may be said: (1) Morphin itself is characterized by many disagreeable sequelæ, and its continued use develops a dangerous tolerance. (2) Codein is generally less active, has similar after-effects, and its subcutaneous use is painful. On the other hand, it does not depress respiration, and therefore may be used with impunity in many cases in which morphin cannot be employed. (3) Peronin is not easily soluble, and has a disagreeable taste, but its administration is not followed by untoward symptoms. It is peculiar in that it irritates the capillary endothelia of the conjunctiva and increases the nutritive flow of lymph in the cornea, and thus may be employed as a subconjunctival injection. (4) Dionin also possesses this property; furthermore, its taste is not objectionable, it is freely soluble, does not depress the respiratory center, can be administered for a longer period without fear of tolerance, and its use is not followed by a train of unpleasant symptoms. (5) It is more sedative than its related drugs, and is especially good in mild hallucinatory and melancholic states.

Scrofula and Tuberculosis.—The ever-interesting etiology of scrofula is discussed by Rothholz, of Stettin (*Ther. Monatshft.*, Dec., 1899). He shows how frequently swelling of the lymph-node is associated with disease of the naso- and oropharynx and recognizes in these the cause in many cases. The various unhealthy conditions of ear, eye and face, which so often accompany scrofula in these cases, can be accounted for by extension or secondary infection from the nose. The acute or more chronic swellings seen after the exanthemata may also be due to a primary nasal focus. All these conditions disappear with proper treatment of the nose. That a true scrofulous lymphadenitis occurs cannot, however, be disputed. The presence of cheesy degeneration or of giant-cells without tubercle bacilli is not, however, sufficient to warrant a diagnosis. The latter are seen sparingly or not at all, but more positive results may follow inoculation of portions of the nodes or the use of tuberculin injections. Scrofulosis is thus generally regarded as a local tuberculosis of markedly chronic character. The infection may be descending, from the nose or tonsils often without directly involving these, or ascending, from the bronchial glands or lungs. We can never, however, be certain that the tuberculosis is the primary lesion, and it is the author's opinion that scrofula really is a chronic inflammation from unknown cause, which secondarily becomes infected by tubercle bacilli.

Hypertrophy of Prostate.—Having had a long experience with Bottini's operation for the relief of prostatic hypertrophy, R. and H. Rorig (*Central. für Krank. Harn- und Sexual Org.*, Dec., 16, 1899) are strongly convinced of its favorable influence. They advocate in every case a palliative treatment of several weeks' duration. If the result is not a satisfactory one, the prostate is cauterized through the urethra according to the method described by Bottini. The results of this treatment in their hands have been remarkably good, and the operation has the especial advantage of permitting the patient to go about after one or two days' rest. It is practically without danger.

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SATURDAY, JANUARY 13, 1900.

MEDICAL EDUCATION AND POLITICS.

THE question of higher medical education in New York State has passed successfully through the trying ordeals that have dogged its footsteps—the jealousies of rival institutions and the selfish interests of private corporations. No sooner, however, have the medical educational institutions of the State placed themselves in line with the advance guard of progress in medical education, established an abiding harmony between themselves and the State Board of Regents, and begun to feel the solid earth under their feet, than the entire educational structure is shaken by the proposed interference with its organization. The disinterested efforts of the Regents are now met by the blighting touch of politics. In the proposed unification of the educational system of the State the politicians have seen an opportunity to enlarge their sphere of spoils, and are attempting to degrade it to the ignoble service of party politics.

We publish to-day a letter from Dr. William H. Watson of Utica, in which he sounds a warning to the medical profession regarding the danger that threatens medical education in the State. Dr. Watson has for many years been Chairman of the Regents' Committee in Medical Education and he knows whereof he speaks. The placing of the power to appoint the Chancellor of the University in the hands of the Governor, at one stroke prostitutes the whole educational system to political uses. Every member of the profession throughout the State should protest to Senators and Assemblymen against this innovation. The present time-honored system has developed an educational department unsurpassed by any other State and productive of most satisfactory results. It was created by the unrivaled political genius of Alexander Hamilton and is now well advanced in its second century of fruitful existence. It is one of the very few institutions that have remained free from suspicion of corruption amid influences which in these later days tend to reduce everything pure, noble, and of good repute, if it can contribute to party power, to the debasing fluctuations and uncertainties of party politics.

Unify the system if it will make it more efficient, but keep it out of politics.

END-OF-THE CENTURY IDEAS OF GONORRHEA.

WE publish this week from the pen of Professor Neisser of Breslau, the well-known discoverer of the gonococcus, an article on the dangers to society from gonorrhea. Even to medical men some of the statements made by their distinguished German colleague will come in the nature of a revelation. Gonorrhea for generations has been considered scarcely more than a passing incident of youthful indiscretion, something that it was alloted to most of the male portion, at least, of the race to experience. Scarcely any more significance was attached to it than to one of the ordinary infectious diseases of childhood.

To consider the disease as a great popular plague, as Professor Neisser does, the universality of which is equalled only by that of measles, but the effects of which are of the most serious kind for the race in general—this is something new. And yet there is no exaggeration. The disease is unsexing large numbers of the population, men and women, every year. It is an important factor in the decrease of the birth-rate all over the world. It is the great causal element in the sterility of marriage, absolute and relative, or, as they call it abroad, one-child sterility. Finally, it is of serious import in the world's economy since it diminishes to a notable degree the wage-

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earning capacity of its victims, not only during its acute manifestations but often for years.

All this Neisser has emphatically presented. His plea for greater publicity in the matter and for carefully devised instruction of the rising generation at the various seats of learning regarding the disease, should find a hearty response throughout the profession. This is a conviction that has found expression recently on more occasions than one in the editorial columns of the MEDICAL NEWS. No possible harm can come from the general dissemination of knowledge in this matter. On the contrary, it gives promises of great benefit to the race.

The second plea that, for the sake of the community in general as well as for the individual, hospital treatment should be conceded to patients suffering from venereal diseases whenever it is desired, is deserving of most serious consideration. The ethical priciples that dictated the establishment, in many of our hospitals, of regulations excluding such patients were founded on certain sentiments with regard to venereal diseases that are not shared by this generation. We have gotten beyond the notion that a man should be permitted to suffer the physical consequences of his transgressions of moral law. Moreover, it must be borne in mind that the penalty is apt to fall quite as severely on the innocent wife and children as on the evil-doer himself.

Professor Neisser's masterly review of a subject which his investigations have made him so competent to handle is calculated to do great good. And it is a source of gratification that the MEDICAL NEWS has been selected as the medium for the communication to the profession in America of Professor Neisser's ideas.

SCURVY, ITS PRESENT OCCURRENCE AND TREATMENT.

A CHANGE has come over medical sentiment during the past few years in regard to the frequency of scurvy. The cases that occur at the present time, however, do not present the easily recognizable conditions that made it impossible formerly to overlook or mistake the disease, *viz.*: the bleeding, spongy gums, the cutaneous hemorrhages, and the conspicuously faulty diet. On the contrary, they are frequently monosymptomatic, and the single symptom may be entirely distinct from those ordinarily set down in the text-books as characteristic of the disease.

The diagnostic points presented in the discussion of Dr. Carr's paper (see p. 51) by Drs. Jacobi and Koplik are of great practical importance and indicate that the possibility of scurvy must always be prominently before the practitioner's mind in dealing with obscure conditions that involve serious changes of metabolism.

The treatment of scurvy, fortunately, is most satisfactory. Meat-juice and milk are the ideal articles of diet, but in practise it has been found that, to achieve the best results, they must be supplemented by lemon- or orange-juice.

ECHOES AND NEWS.

NEW YORK.

$100,000 for Columbia.—Mr. John D. Rockefeller has presented $100,000 to Columbia University for the endowment of a Chair of Psychology.

Brooklyn Neurological Society.—At the annual meeting of the Brooklyn Society for Neurology, Dr. William Browning was elected President; Dr. R. C. F. Combes, Vice-President, and Dr. W. H. Haynes, Secretary, for the ensuing year.

Genito-Urinary Section.—At the last meeting of the Genito-Urinary Section of the Academy of Medicine, Dr. W. K. Otis was elected Chairman for the ensuing year. The date of meeting was also changed from the second Tuesday to the third Wednesday in the month.

An Electric Ambulance.—St. Vincent's Hospital has a horseless ambulance which is operated by an electric motor supplied with power from a storage battery. It is the gift of Edward Kelly, Esq. Its cost is $3000, and it can travel at the rate of ten miles an hour. It is in many respects similar to the present city ambulances, but it is equipped in front with sliding, glass doors for use in stormy weather.

New York Neurological Society.—At the annual meeting of the New York Neurological Society the following officers were elected for the year 1900: President, Frederick Peterson, M.D.; First Vice-President, Joseph Collins, M.D.; Second Vice-President, L. Stieglitz, M.D.; Recording Secretary, Pearce Bailey, M.D.; Corresponding Secretary, Lewis A. Conner, M.D.; Treasurer, Graeme M. Hammond, M.D.

The Babies' Hospital.—The Rev. Dr. Charles Cuthbert Hall, in an address, declared that the Babies' Hospital has set an example for the care of the very young which has been followed in a large number of cities. This hospital sends pamphlets to poor people explaining the proper care of a child. During the past year 394 patients were treated. Thirty-four nurses have been trained and graduated in the training school which the hospital conducts.

Montefiore-Home Work.—The fifteenth annual

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report of the directors of the Montefiore Home for Chronic Invalids shows that during the last year 609 patients were treated; 194 were discharged, of whom 114 were improved and 36 were cured. The average death-rate was 16.91 per cent. There are 132 cases waiting to be received. Only 39.19 per cent. of the applications received during the year could be accommodated with the present facilities. A sanitarium is being built, at Bedford Station, Westchester County, to which all of the patients afflicted with pulmonary diseases will be removed.

Widows and Orphans.—The New York Society for the Relief of Widows and Orphans of Medical Men has issued its fifty-eighth annual statement, 1899. Its funds now amount to $234,981.86, securely invested, and its income for 1898-9 was $10,301.59. Under the present by-laws of the Society the annuities allowed are: To the widow of a member an annuity of $400 a year, but for every ten dollars or multiple of ten of income an amount equal to fifty per cent. of said income shall be deducted from the annuity. Each child entitled to relief is allowed $100 per annum, subject to the same conditions as a widow. The Society has extended aid to eighteen widows and six children of deceased members during the past year.

"Archives of Neurology and Psychopathology."—Although somewhat belated this number of Volume II. of *The Archives,* coming from the Pathological Institute of the State Commission in Lunacy, shows that the promises of the editors are commencing to be realized. The present number contains two short and practical chemical papers by Dr. P. A. Levene on the proteids of the brain and the iodide compounds found in the body following the administration of potassium iodide, and a monographic treatment, which is a masterpiece of work in every way, by C. J. Herrick on the cranial nerve components of one of the bony fishes. This study received the prize of the Alumni Association of the College of Physicians and Surgeons. It is an invaluable contribution to those interested in comparative neurology.

The Suicides of 1899.—During 1899 *The* (New York) *Sun* reported 569 suicides in this city, of whom 442, or 78 per cent., were males. Of the whole number 226 shot themselves, 141 took poison, 43 died by hanging, 54 by gas, 37 by drowning, 30 by cuts or stabs, 22 by leaps and 9 by other methods. In 7 cases the method was not stated. Shooting was more popular with men and poisoning with women. Hanging was slightly more frequent among the males proportionately to their respective numbers. Twenty-four of the 30 who died by cuts and stabs cut their throats. In 16 instances the razor was used. The poison most frequently used was carbolic acid, which was taken by 54 per cent. among the males and 75 per cent. among the females who took poison. Of the total female suicides 37.8 per cent took carbolic acid. The stated causes of 267 of the 569 suicides were: Out of work 39, love episodes 18, domestic afflictions 54, sickness 57, business troubles 39, crime 23, other causes 37. Some absurd reasons for self-destruction were: A leaky roof; failure to get to a Christmas dinner, and the threat of a bath.

The City's Charities.—In their twenty-seventh annual report to the State Charities Aid Association, the New York County Visiting Committee complimented Commissioner John W. Keller upon the marked improvement during the past year in the condition and management of the various institutions in the Department of Charities of New York City. As much as possible has been done with the limited appropriation of $200,000. An earnest desire to improve the condition of the public institutions has been evident. There is a gratifying decrease in the number of inmates during the year as probably indicative of better industrial conditions in the community and also of more careful discrimination in the admission of inmates. Paid employees have been substituted for prison labor—a very commendable improvement. Many other improvements are needed, notably a new building for the Harlem Hospital. It is stated that in view of the excellence of the maternity service in the city institutions, it is not proper that the city should pay large sums of money to private institutions for the care of such cases when the city's own institutions are able to receive them and to provide for them at much less cost. The special committee of the State Charities Aid Association appointed to consider the subject of public aid to private institutions has reported to that body its conviction that the plan of granting public subsidies to private institutions has inherent and grave dangers which cannot be obviated and that no plan can be devised which will insure wholly satisfactory results. The city authorities, who have practically complete control in the matter, should begin at once to reduce the amount so appropriated with a view to finally discontinuing absolutely the custom in the near future.

PHILADELPHIA.

The Obstetrical Society.—The election of officers for the current year by this Society was held during the past week, the results being as follows: President, Dr. John C. Da Costa; vice-presidents, Drs. John M. Fisher and George M. Boyd; secretary, Dr. Frank W. Talley; treasurer, Dr. John G. Clarke.

The College of Physicians.—The annual election of officers of the College of Physicians which was held last week resulted as follows: President, Dr. W. W. Keen; vice-president, Dr. H. C. Wood; censors, Drs. Alfred Stillé, William F. Norris, Richard A. Cleeman, Arthur V. Meigs; treasurer, Dr. Richard H. Harte; honorary librarian, Dr. F. P. Henry.

New Children's Ward.—At the last meeting of the Board of Managers of the Episcopal Hos-

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pital, held last week, it was decided to shortly begin the erection of the new Aspinwall Ward for Children, the fund for this purpose, bequeathed several years ago by the late Anna R. Aspinwall of Pittsburg, being now in possession of this institution. The cost of this addition to the hospital will amount to $200,000.

School Medical Inspectors.—In compliance with the agreement reached a few weeks ago by the Board of Health and the Board of Education, this week saw the beginning of the system of daily medical inspection of the public school children, by the corps of volunteer medical inspectors recently appointed by the city on the recommendation of the various medical schools and hospitals. Thus far 210 physicians have been appointed to conduct these inspections, the present system being regarded as experimental, to become permanent later, with a paid corps, if it proves satisfactory.

State Board of Medical Examiners.—The results of the midwinter meeting of this Board, just concluded, have been embodied in a report which will be filed at Harrisburg and will form the subject for action at the meeting to be held at the Capital this week, by the State Medical Council. On account of the recent and evidently sustained charges of fraud in the State Medical examinations, this report is awaited with especial interest, and it is promised that the current meeting of the Council will develop a number of startling revelations in reference to this unsavory and decidedly well-advertised episode which involved in its meshes not a few of last year's graduates.

Palladium Chloride in Phthisis.—At the last meeting of the Philadelphia County Medical Society, held January 3d, Dr. S. Solis Cohen related his experience with this palladium salt in the treatment of pulmonary tuberculosis, his attention first being drawn to the drug by John Johnson, a nurse in the Jefferson Hospital, who had for a long time used it for the preparation of ligature material because of its marked antiseptic and oxidizing properties. The drug was given in solution, made with the aid of hydrochloric acid, and should be used in the strength of 15 grains to the fluid ounce. The initial dose is 5 drops of this solution, well diluted with water, and administered from ten minutes to one-half hour before meals; the dose is later doubled, if the patient stands it well. The only untoward effect noticed from its administration was an acceleration of the cardiac action, the fact that this was due to the drug being shown by the subsidence of this symptom when the drug was withheld, and its reappearance as soon as its readministration began. The action of palladium chloride in pulmonary tuberculosis is thought to improve nutrition, and to lessen the activity of septic processes. In some cases it gives better results, if alternated with iodoform for several days at a time. Dr. Cohen is inclined to regard the drug as of real value in the treatment of phthisis, many cases improving in weight and losing febrile manifestations from its use. A number of cases, some detailed, were quoted to demonstrate its usefulness in the treatment of this condition.

Rupture of the Liver.—Dr. Joseph Sailer, at the last meeting of the Pathological Society of Philadelphia, held December 28th, reported an interesting instance of this kind. The patient, a man who died five days after having been violently thrown down and trampled on in a crowd, had received a severe blow in the region of the liver, with no external evidences of the injury with the exception of a trifling contusion with more or less abrasion at the seat of the injury. Autopsy showed that the peritoneal cavity was filled with blood, but that no inflammation of the peritoneum existed, this membrane appearing normal after a brownish-red deposit was wiped away. An enormous laceration of the liver was found, extending in the form of a slit through almost the entire thickness of the right lobe. The primary point of rupture seemed to lie deep in the substance of the organ, from which situation a number of irregularly shaped fissures radiated in various directions, producing extensive lacerations in many parts of the liver-substance. Fan-shaped areas of necrosis surrounded these lacerated portions of the organ. The most interesting point in the case appeared to be the fact that death had not been due directly to the rupture of the liver or to the extensive peritoneal effusion of blood, for cultures made from the blood showed the presence of an organism corresponding to the pneumobacillus of Friedländer. A white mouse inoculated with the growth died the following night, and growths made from the tissues of this animal were characteristic of the organism in question. The speaker thought it probable that the pneumobacillus had gained access to the liver through the bile-ducts and, by means of the rupture, entered the abdominal cavity, and in the blood there present had developed its toxins. The therapeutic question in this case seems whether or not it is advisable to evacuate the abdominal cavity in such cases when the symptoms of peritonitis are present.

GENERAL.

Dr. Conan Doyle has volunteered his services to the British army for service in South Africa, and will go out with the Langman field hospital.

Marine Hospital for Honolulu.—The President issued an order on January 6th setting apart about seven acres out of the government reservation, east of the "Punch Bowl," in the Island of Oahu, Hawaii, as a site for a United States Marine Hospital for the Port of Honolulu.

Influenza Epidemic.—It is reported from London that the weather there is most debilitating and dreary. Influenza has become epidemic again, and there is sickness, as well as mourning for the heroes of the war, in nearly every West End house.

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Dr. Czerny Coming.—By invitation of Dr. R. F. Weir, the President of the American Surgical Association, Professor Czerny, Professor of Surgery at Heidelberg, has arranged to be present at the next meeting of the Association, at Washington, in May. He will read a paper upon surgical operations for the relief of gall-stones.

The Association Medal.—At the meeting of the American Medical Association, held June 4, 1897, it was resolved to restore the former policy of the Association in favor of offering annually a gold medal for meritorious scientific work. The committee for this year consists of Drs. George M. Gould of Philadelphia, E. Fletcher Ingals of Chicago, and T. W. Huntington of Sacramento, Cal. For information governing the competition apply to committee.

$5,000,000 to Charity.—By the will of the late Robert Breck Brigham, a hotelkeeper of Boston, the bulk of an estate of $5,000,000 is given to charity. The chief provision is for the establishment of a new hospital in Boston to be known as "The Robert B. Brigham Hospital for Incurables," which is to be maintained as an institute for the support and treatment of such Boston people as are unable to support themselves by reason of incurable disease or permanent physical disabilities.

Dr. Schenck Removed.—As the result of a demand by the Vienna Medical Faculty that Dr. Schenck be dismissed for the alleged "frivolous publication of scientific matter," he has received permission from the Minister of the Interior to retire on a pension. Dr. Schenck was professor at the University of Vienna and President of the Embryological Institute. This severe discipline has been administered on account of the publication of his book, in which he asserted that he had discovered the power of predetermining the sex of offspring. It savored too much of personal advertising.

Another Old School Doctor has appeared in fiction, this time in a book by Stacpoole. When on earth the doctor was much beloved by the people of a remote part of Somersetshire, whom he ruled as well as healed. His characteristic gruffness is well illustrated in his opinion of the germ theory. "Damn microbes; there ain't any such things. I remember the time when *The Lancet* was a paper that a man could understand. That was when Watson was alive and Jenner and Gull were young men. Now it's all packed full of microbes and antiseptic surgery. Microbes there may be in London, but there ain't any in Somerset."

Barbarians?—For those of us who cling to the Greek notion that all are barbarians who speak another tongue, it is well to notice the titles of the articles in a little volume published by the Ekaterinoslav Medical Society to commemorate the twenty-fifth anniversary of its foundation. "The Comparative Value of Disinfectants," "Hypnotism as a Therapeutic Means," "Railway Ambulance Cars," "Syphilis of the Heart," and "The Sanitary Condition of Jewish Primary Schools," are some of the subjects considered, which show that Southern Russia may be a long way removed from New York, London and Paris in miles, but is not so far away in years.

Mosquitoes and Japanese Literature.—A correspondent of the *Lancet* points out that in a little Japanese romance, published in 1885, the following statement occurs: "The Japanese declare that its (the mosquito's) constant attacks bring on a kind of fever; and this is by no means improbable, having in view the fact that this pest prepares for the summer campaign by a course of training on the swamps and marshes of the neighborhood, and inoculates whole families with the essences of these odoriferous hunting-grounds. If sleepless nights combined with repeated doses of this subtle poison were not to give rise to feverish symptoms, it would, indeed, be strange." Truly there is nothing new under the sun.

Gynecology in Guam.—Captain Leary, the Governor of the Island of Guam, has recently forwarded to Washington what is considered a remarkable innovation in naval requirements—a requisition for a full set of obstetrical and gynecological instruments. It appears that the naval surgeons who are stationed at Guam have been very active in establishing hospitals in several of the larger villages; one contains ten beds and another as many as twenty. The surgeons have been disseminating among the people much needed knowledge of the rudiments of hygiene and the care of the sick. From the requisition above referred to it is evident that the female population of the Island are about to be initiated into the most recently approved scientific surgery.

Information Wanted.—The psychophysiology of anesthesia is a productive subject greatly in need of adequate investigation and discussion. Both pure science and practical surgery have doubtless much to gain from a more extensive study of experiences under ether, chloroform, nitrous oxide, etc., than has yet been made. Scientific literature has frequently contained reports of single cases, made chiefly because of their strangeness, but what is now desired is a very large number of accounts of the ordinary experiences as they "run." Printed blanks have been prepared on which replies to certain simple questions may be written. All persons, and especially hospital surgeons, officers of medical societies, and instructors in medical schools, are respectfully requested to send to the undersigned for as many of these as they care to distribute among individuals who have been under an anesthetic within a period not too long to prevent accurate recall of the facts. The blanks will be gratefully sent (and received when filled out) by George V. N. Dearborn, M.D., Physiological Laboratory, Harvard Medical School, Boston, Mass.

Housing Members at the Congress.—The secre-

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tary-general of the International Medical Congress has issued a notice saying that the Paris executive has been considering the important question of housing foreign members who attend the congress. The rector of the Academy of Paris will place at the disposal of the General Committee 800 beds in the various lycées at Paris during the congress week, and it is hoped that an additional 200 may be obtained, making a total of 1000. The price of each bed is fixed at five francs fifty centimes a day, $1.10, to comprise bed, attendance, and the eight o'clock "petit déjeûner." The beds are in dormitories, and not in separate rooms. Nothing is yet decided about the distribution of these beds. The chief Parisian excursion agents are now ready to receive applications for rooms from intending visitors who do not patronise Messrs. Cook & Son, the agents recommended by the English committee. The names of the French agencies are (1) "Voyages Duchemin," 20 Rue de Grammont, Paris; (2) "Voyages Modernes," Rue de l'Echelle, No. 1, Paris; (3) "Voyages Pratiques," 9 Rue de Rome, Paris; (4) "Agence Desroches," 21 Rue de Faubourg Montmartre, Paris; (5) "Agence Lubin," 36 Boulevard Haussmann, Paris.

Program of the Congress.—The program of the Congress of American Physicians and Surgeons, to be held at Washington, D. C., May 1, 2 and 3, 1900, is as follows: There will be a general session in the afternoon of Tuesday and of Wednesday.

Tuesday.—Papers will be read as follows: Prof. Theobald Smith of Boston, "Adaptation of Pathogenic Bacteria to Different Species of Animals;" Dr. Samuel J. Meltzer, of New York, "The Physiological Resources of the Body in Its Defense against Bacteria and Their Toxic Products;" Prof. Harold C. Ernst, of Boston, "Flagella and Serum Reactions;" Dr. Richard C. Cabot, of Boston, "Relation of Bacteriology to Clinical Medicine;" Dr. Edward R. Baldwin, of Saranac, New York, "Bacterio-Therapeutics with Especial Reference to Tuberculosis;" Prof. William S. Thayer, of Baltimore, "The Aetiology of Malarial Fevers;" Prof. George Dock, of Ann Arbor, Mich., "Infection by Animal Parasites;" Prof. Simon Flexner, of Philadelphia, "Bacteriology of Dysentery."

Wednesday.—Prof. William Osler, M.D., LL.D., of Baltimore, "Modern Therapeutics;" Dr. Clarence J. Blake, of Boston, "Sociological Status of the Physician;" Poem by Dr. S. Weir Mitchell, M.D., LL.D., of Philadelphia, "The Evolution of the Physician." 8 P. M., address by the President of the Congress, Prof. Henry P. Bowditch, M.D., LL.D., D.Sc., "The Medical School of the Future," to be followed by a reception.

Thursday.—8 P. M., banquet of the members of the Congress.

The Plague at Manila.—We noted last week that the plague was reported at Honolulu. This news has been confirmed. This week comes the official announcement that plague has broken out among the natives at Manila. Its occurrence, however, is not looked upon with alarm. It has been expected for some time. The strictest quarantine will be enforced with regard to vessels coming from that port, and the Marine Hospital Service already has a party of experts on the ground and more en route to take charge of the city. Surgeon-General Sternberg gives the positive assurance that Colonel Greenleaf, the Assistant Surgeon-General and Chief Surgeon of the United States army in the Philippines, is exceptionally well fitted to cope with the present emergency. He has all the resources needed at his command and there is no doubt that the disease will soon be stamped out. So far, in the East the disease has practically always been confined to the native population. This is notably true of Hongkong, where it has existed for many months, without causing any considerable fatality among the European population. It was probably from Hongkong that the disease found its way to Manila. The medical officers at all times have been on the watch to prevent this, but owing to the short distance from Hongkong to Manila, and the large amount of traffic carried on in a small way by native junks and dhows, the ultimate introduction of the disease into Manila was inevitable. Up to the middle of the week six cases and four deaths had been reported there. The disease was sporadic in various places, not epidemic at a single point.

Reciprocity of State License.—The following resolution was adopted by the Illinois State Board of Health, October 10, 1899: Resolved: That applicants for a State certificate to practise medicine and surgery in the State of Illinois, who have been examined and licensed by other State Examining Boards maintaining standards not lower than those provided for in the Act to regulate the Practise of Medicine in the State of Illinoise, in force July 1, 1899, shall be granted certificates without further examination, on payment of the fees required by the Act, providing that the applicant, who must be a graduate of a medical college in good standing with this Board, shall present with his license an affidavit from the president or secretary of the State Examining Board showing that the requirements of said examining board at the time of his examination were equal to those exacted by this Board under the present law, and providing, further, that the said State Examining Board will grant licenses without examination to applicants holding certificates issued by the Illinois State Board of Health under the act now in force.

NOTE.—Under the provisions of the Act to Regulate the Practise of Medicine in the State of Illinois in force July 1, 1899, an applicant for a certificate to practise medicine and surgery in the State must present evidence of being a graduate of a medical college in good standing as may be determined by the Board, and must pass an examination in those general subjects and topics,

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a knowledge of which is commonly and generally required of candidates for the degree of doctor of medicine by reputable medical colleges in the United States. No medical college will be considered in good standing after January 1,1900, which does not require of all graduates receiving diplomas after that date, as a condition of graduation, an attendance upon four full courses of lectures in four separate years.

Medical News from Seat of War.—Sir William MacCormac and Mr. Frederic Treves are finding abundant occupation in South Africa from the sad results of the past two or three battles. No less than four train-loads of wounded have been brought into Maritzburg to the hospital from the battle of Colenso alone. Mr. Treves is operating incessantly and Sir Willim MacCormac superintending the collection and transfer of the wounded. An interesting illustration of the fact that it is bacteria rather than bullets which the soldier has to dread among the risks of war was given this week in the return of one of the sick transports. Out of a total of some hundred and thirty invalided officers and men, less than one-third were suffering from the results of battle-wounds. This minority, however, included *all* the officers, among whom the battle-mortality has been something terrible, as the "traditions of the British army" most stupidly forbid their taking cover or even lying down, and the Boer marksmen make a special point of picking them off. Now, however, common sense has triumphed and they are not only ordered to take any reasonable advantage of cover and lie down with their men, instead of marching up and down in front of them as hitherto, but to dress in khaki without a sign of ornament and carry a rifle instead of the foolish and useless sword, which simply served to attract the enemy's fire.

Almost every returning transport brings its wan but plucky and cheerful burden of sick and wounded, who are promptly distributed among the various military hospitals, Netley receiving the lion's share. Offers of accommodation from homes and hospitals continue to come in almost daily, one of the latest being from Devonshire in the West, but so far the army establishments have been found adequate to the demands.

A new service-rank has been proposed for the Army Medical Corps, that of "doctor's messenger." A plucky and enterprising Australian youth of ten has suggested it and created quite a furor by volunteering to accompany the next regiment from Melbourne in that capacity. And no doubt a handy boy could be of great service in fetching and carrying for the surgeon in his improvised field operating-room, when perhaps a grown man could hardly be spared from bearer-service. So long as infants of from ten to fourteen years are allowed to accompany the troops in the field and run into battle, as drummers, buglers, etc., there seems no reason why similar Lilliputians should not be enlisted upon the life-saving side of the force. Some doctor's messenger may one day gloriously eclipse the unhappy record of little Bugler Shurley, who "cried to be taken into battle," and then shot three Boers with his own revolver. One life saved would beat this **1000 per cent.**

Sir William Thompson, K. B., late President of the Royal College of Surgeons, has been appointed chief surgeon to the English forces in South Africa. Major Baly and forty-one men of the British Medical Corps, who were left at Dundee when their fellows evacuated the town, were released by the Boers and were permitted to proceed to Delagoa Bay.

OBITUARY.

WILLIAM A. HAMMOND, M.D.

WILLIAM A. HAMMOND, M.D., ex-Surgeon-General of the United States army, died at his residence, in Washington, at 9 p. m., Friday, January 5th, having been stricken with heart failure after the hurried ascent of a flight of stairs; death came almost immediately. Dr. Hammond was born at Annapolis, Md., August 28, 1828. He was graduated at the Medical Department of the University of the City of New York, and entered the United States army in 1849 as an Assistant Surgeon, with the rank of First Lieutenant. In October, 1860, he resigned to accept the professorship of anatomy and physiology in the University of Maryland. At the beginning of the Civil War he again entered the army, and was assigned to the organization of general hospitals in Hagerstown, Frederick and Baltimore. Afterward the Sanitary Commission urged his appointment as Surgeon-General of the army, and in April, 1862, he received this commission with the rank of Brigadier-General. He instituted radical changes in the organization of his department and managed his official business with great ability. With keen appreciation of the wonderful opportunities for instructive and unusual specimens of gun-shot injury he established the Army Medical Museum at Washington, and suggested the plan of the Medical and Surgical History of the Rebellion. Unfortunately his career was abruptly closed and his reputation clouded by a charge of irregularity in the award of contracts for medical supplies. He was tried by court-martial and dismissed from the army August, 1864. He then removed to New York, where he practised his profession, making a specialty of diseases of the nervous system, and promptly established himself as a recognized authority. He was professor of diseases of the mind and nervous system successively in Bellevue Hospital Medical College and in the Medical Department of the University of the City of New York. Later he joined with others of his colleagues in founding the New York Post-Graduate Medical School.

In accordance with an act of Congress, which was passed in 1878, the President of the United States was authorized to review the proceedings

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of the court-martial. As a result of the President's investigation Dr. Hammond, in August, 1879, was exonerated and restored to his place on the rolls of the army as Surgeon-General and a Brigadier-General on the retired list.

Dr. Hammond was a voluminous writer upon subjects connected with his specialty and contributed frequently to current medical literature. He founded and edited the *Maryland and Virginia Medical Journal,* and was one of the organizers of the *New York Medical Journal.* He established and edited for a time the *Quarterly Journal of Psychological Medicine and Medical Jurisprudence.* Dr. Hammond was a man of commanding presence, and possessed of extreme self-confidence and remarkable personal magnetism.

Two children survive him, Dr. Graeme Monroe Hammond of New York, and the Marchioness of Lanza, formerly Miss Clara Hammond. His remains were interred at Arlington Cemetery with full military honors.

CORRESPONDENCE

THE MEDICAL PROFESSION AND THE PROPOSED CHANGES IN THE NEW YORK STATE UNIVERSITY.

To the Editor of the MEDICAL NEWS:

DEAR SIR:—At the time of the creation of Boards of Medical Examiners in this State, in 1890, it was found difficult to determine the proper and most fitting place in which to lodge the authority requisite for their administration. After long discussion, during which various plans were suggested, as, for instance, having the members of the Boards appointed by the Governor, by the Board of Health, etc., none of which were satisfactory, it was decided to lodge that power in the Board of Regents, for the reason that it was the only place in which the power of appointment could be located without danger that medical education might become the spoils of partisan politics. The original constitution, mode of election and life tenure of the members of that Board were such that it would necessarily be absolutely non-partisan and impartial. That this must be so was a self-evident fact.

(1) Because it comprised within its membership Presbyterians, Methodists, Unitarians, Quakers, Episcopalians, Roman Catholics, Baptists, and men of no religious belief—in a word, it was a Board from which no man, possessing good character and suitable educational attainments, could be excluded on account of any peculiarity of belief.

(2) This safeguard was reinforced by the fact that its members, having been elected for life or good behavior, would be under no necessity of looking for re-election, and hence that class of temptations which beset the members of any board chosen for only a brief term of years would not appeal to the members of this Board.

(3) Moreover, at that time the Board of Regents had already been in existence for ninety-six years and no charge of partiality, partisanship or sectarianism had ever been alleged against it. This is one of its most estimable features. In the language of a former Chancellor, the late George William Curtis, "the highest tribute to the Board of Regents is the *truth* that although every member is necessarily elected by a party vote, yet at the door of their council chamber, party vanishes and politics disappear." It is a department of the State from which all political, personal and sectarian influences have been entirely eliminated. All its deliberations are conducted in the spirit of the Virgillian motto, "Tros Tyriusque mihi nullo discrimine agetur."

The writer can testify that every case which has arisen in the course of the eighteen years during which he has been a member and a regular attendant upon its meetings, has been decided solely upon its merits. The Board of Regents is, therefore, a central, educational and administrative body, which is at the same time an impartial court (the exact analogue of which exists in no other State) to pass upon the preliminary requirements for medical education, and to supervise and conduct the examinations for medical licenses to practise. It may be here said, in passing, that an attempt is at this time being made in other States to adopt the New York Medical Law. It has failed in several cases for the reason that in those States there is no similarly constituted body in which to lodge the authority for their construction and supervision. There are Boards of Regents, it is true, in several of our sister States, but they are elected for comparatively brief terms of office, and from want of permanence of tenure do not have the same independence which has always characterized this Board, whose members, fortified by years of experience, have devoted themselves to unrewarded public service, with no compensation save the consciousness of having to the best of their abilities performed their duty to the commonwealth. It is now an honorary life office, without pecuniary compensation of any kind, except the reimbursement of the necessary traveling expenses of its members, and as such has commanded the services of men of the highest character in the State. It requires both time and experience to become familiar with its multiplied and varying duties, and it would not be worth while to attempt it for a brief term of years without compensation.

The changes which have been proposed by four of the seven Unification Commissioners cannot but be mischievous. These gentlemen advocate the appointment of the first Chancellor of the proposed Department of Education by the Governor with the consent of the Senate, to which arrangement the other three members of the Commission are opposed.

While no one has a more exalted estimate of the character, independence and courage of his convictions, of the present occupant of the guber-

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natorial chair of this State than has the writer, yet, should the plan urged by the majority of the Commission go into effect and the appointment of a Chancellor devolve upon his Excellency, Theodore Roosevelt, it would still be very unfortunate for the reason that such an example having been once established, other Governors might use the power for purely political purposes. Says the *New York Tribune* in an able editorial article, January 6th, " It is safe to predict that a political power affecting twelve thousand common schools, more than thirty thousand teachers, and nearly every family in the State, if it were once lodged with the Governor and Senate, would never be surrendered by the politicians to a non-partisan body beyond their reach. Mr. Melvil Dewey from an experience of eleven years, in a letter to the Governor in which he opposes other features of the report, uses the following emphatic language: "There is another consideration at least tenfold more important than this unification and that is that education in this State should be kept absolutely free from the domination or interference of partisan politics." And again, " I am forced to believe after mature deliberation that the danger of injury to our educational interests, if their plan should be adopted without material modification, is vastly greater than any possible good that may come from the improvement suggested."

The existing mode of constitution and tenure of office of the Regents has worked admirably for 115 years. The life tenure puts its members beyond political control, and, as has been well said by another: " The fact that the members are beyond political control discourages political manipulators from seeking to elect as regents the kind of men who are submissive to political control, and has thus placed upon the Board men whose motives have always been above suspicion."

That there is great danger of lowering the standard of medical education from any radical change in the constitution or life tenure of the Board is evident. This Board has administered the system of medical examinations which has done so much to elevate the character and standing of the profession in this State, and which by scholars and publicists is conceded to be the most perfect in the world, with an independence and impartiality which can be expected only from a board constituted as this has been. Its supervision of the ascertainment of the qualifications of members of the medical profession meets with the approval of the educated members of the profession everywhere and of all schools of medical belief. Why, then, should it be changed? I am unwilling to believe that the Legislature will consent to it, and I trust that the thinking men of our profession will urge upon their representatives in that body the wisdom of standing by the existing system as it has been handed down to us by the fathers of the State.

Wm. H. Watson, M.D.

Utica, New York, January 8, 1900.

OUR LONDON LETTER.

[From Our Special Correspondent.]

LONDON, January 1, 1900.

DEATH OF SIR RICHARD THORNE—LONDON HOSPITAL FUNDS—LEAGUE OF MERCY—SCHOOL ATTENDANCE—DIPHTHERIA IN GIRLS—PROF. U. C. TIRARD'S APPOINTMENT—BORACIC ACID AGAIN AS A FOOD PRESERVATIVE.

THE death of Sir Richard Thorne comes as a grievous surprise to the profession, as it was only a few days ago that he was taking a most active part in the warm debates of the General Medical Council. Although a prominent figure in sanitary and medical circles for thirty years past his age was only fifty-eight so that years of usefulness in his high position as principal medical officer to the Local Government Board were yet expected of him. Sir Richard was a St. Bartholomew's Hospital man and a graduate of the University of London. At thirty years of age he was appointed a medical inspector to the Privy Council, and ever since then has been prominent in matters connected with the public health. He has been official delegate to most of the great international sanitary conferences and a prominent member of the Royal Commissions upon Tuberculosis and Sewage Disposal, a Fellow of the Royal Society, a Fellow of the Royal College of Physicians, lecturer and examiner in Public Health to the Universities of Oxford and Cambridge, and to St. Bartholomew's Hospital; honors crowded upon him until he was knighted in 1897.

His contributions to medical literature consisted of papers upon "The Origin of Infection," "The Progress of Preventive Medicine During the Victorian Era," "The Natural History and Prevention of Diphtheria," and what attracted the widest attention of all, the Harleian lectures of last year upon the "Prevention of Tuberculosis." These admirable addresses stirred the popular mind in an extraordinary manner and had much to do with stimulating the agitation, resulting in the formation of the National Association for the Prevention of Consumption. His graphic statements as to the spread of tuberculosis through diseased milk, and the alleged increase of tabes mesentrica in children as connected with the wider use of milk as an infant-food, attracted special attention.

The report rendered at the annual meeting of the Metropolitan Hospital Sunday Fund showed that the total collections of the past year aggregated nearly $270,000, an increase of $65,000 over the previous year. If the Prince of Wales Fund can manage to equal this, the regular annual deficiency between income and expenditure of the great city hospitals, estimated as at least $100,000, will be practically made good.

In not very favorable contrast to this record of growth, comes the preliminary report of that delicately-perfumed and highly aristocratic organization, the League of Mercy, organized nearly a year ago. It will be remembered that

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this was a most select scheme of hospital fund-collecting organization, headed by the Prince of Wales and officered by half the titled personages of England, each of whom was to have the power of appointing committees of plebeians, every member of which was to make herself responsible for the collection of a certain sum to be extorted from her suffering friends. We described it at the time as a sort of charitable "snowball-scheme" under aristocratic patronage and gravely doubted its wisdom and prospects of success. The outcome, so far, seems to have justified the position, for it was announced to the meeting that although 883 vice-presidents and lady vice-presidents had been nominated and eighty-two branches organized, the net outcome of nine months' polite activity had reached barely $22,000, and of this only $5000 had so far been forwarded to the Hospital Fund. So that the society lady, *pur sang*, as a charity-collector does not seem the success which had been expected. After all it is your self-made man who parts with his money most generously and freely, and the noble collectors may have worked too exclusively in their own set.

Prof. W. R. Smith, medical officer to the London School Board, in the second of his Harleian lectures upon diphtheria this week, dealt chiefly with school attendance as a factor in the spread of the disease. From the careful study and comparison of a large number of statistics, American and Continental, as well as English, he is inclined to the consoling conclusion that school-attendance is a comparatively unimportant factor in the spread of the disease, and that the chances of communication through the play of children upon the street and in each others' homes, are rather increased by closing the schools, and constitute almost as great a danger.

He called attention to the serious increase with age of liability to the disease in girls as compared with boys, growing from a slightly lesser mortality during the first year to an equal one in the third year and reaching an excess of thirty per cent. between the fifth and tenth years. The careful comparison of the different influences surrounding boys and girls during these school years has failed to account for this marked variation of liability and fatality.

Prof. U. C. Tirard has been appointed to the Chair of Medicine in Kings College, vacant by the resignation of Prof. L. Burney Yeo.

A writ of attachment has been issued by the Queen's Bench against all the Leicester Board of Guardians as a result of their first delay, and their evasive pretence at appointing a vaccination-officer. The writ gives opening until the fifth day of the next sitting for the Guardians to make a genuine compliance.

Another of the unfortunate differences of medical expert opinion which are so lamentably common, has occurred before the Committee on Food Preservatives this week *in re* boric acid. The use of this was condemned upon the sound and well-known grounds so often presented by Prof. Boyce and Dr. Amsett, of University College, Liverpool, but Dr. Robert Bell, of Glasgow, actually took up the cudgels vigorously in its defence, alleging that it was less harmful than either salt or saltpeter, was invaluable in surgery, had saved many lives by its prolonged use as an antiseptic, etc., etc. All these statements are, of course, true enough, but they have nothing to do with the question at issue. Salt and saltpeter are self-limiting as to the proportion in which they can be used on account of their taste, while boracic acid may be present in considerable quantities without detection. Hence the man who buys over-salt butter knows just what he is doing, while he who buys borated milk does not, and this is precisely the point in discussion, one of selling under false pretenses.

TRANSACTIONS OF FOREIGN SOCIETIES.

French.

INFLAMMATION OF THE ETHMOIDAL CELLS—INADEQUACY OF POLICE REGULATIONS TO CONTROL THE SPREAD OF SYPHILIS—IMPROVEMENTS IN THE TECHNIC OF GASTRO-ENTEROSTOMY — VARIATIONS OF TEMPERATURE DUE TO HEMORRHAGE—OPERATIVE AND NON-OPERATIVE TREATMENT OF COXALGIA—UNUNITED FRACTURES CURED BY THYROID GLAND—CURE OF THE MORPHIN HABIT—DEATH FROM CALOMEL—KERNIG'S SIGN PRODUCED BY MENINGEAL HEMORRHAGE—IPECAC TO CONTROL HEMORRHAGE—ANESTHESIA PRODUCED BY INJECTION OF COCAIN INTO THE LUMBAR CORD.

AT the Academy of Medicine in Paris, November 7th, Koenig called attention to an inflammation of the ethmoidal cells, characterized by a hyperplastic periostitis, always situated in the upper and internal portion of the orbit. After the usual symptoms of an acute coryza, a little non-fluctuating tumor, painful on pressure, appears in the inner angle of the orbit. It is accompanied by a slight edema of the eyelids. The acute symptoms subside in a few days and leave the periosteal tumor. If one cuts into it only blood will be obtained. The prognosis is a favorable one for, unlike empyema of the ethmoidal cells, the process tends naturally toward recovery.

At the session of November 14th, Fournier admitted the entire inadequacy of police regulations to control the spread of syphilis. The only prophylactic measure which is of practical value is the thorough treatment of syphilitic patients. Unfortunately their treatment is usually not carried out for a sufficient length of time. It would be a great help toward protecting the community from syphilis if every general hospital would make an especial effort to treat syphilitic patients and if additional opportunities were furnished toward the same end in all parts of the city. If dispensary classes for this sole purpose were arranged so that the patients would lose a minimum of time, and could call at an hour best

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suited to their work, they would keep up their treatment for a longer period than at present and the spread of the disease would be greatly limited.

At the Surgical Society, October 25th, Tuffier described a posterior gastro-enterostomy performed on account of a pyloric tumor. The operation was entirely successful. Some weeks later no tumor could be felt, and one is, therefore, justified in concluding that it was of benign character. The operation showed that it is quite unnecessary to employ clamps to keep back the contents of the stomach or intestine. The tension upon these parts as they are drawn out of the wound is sufficient to prevent escape of their contents. It is a good thing to wash out the stomach after gastro-enterostomy has been performed. Annoying vomiting may be cured in this way and lavage will show the amount of hemorrhage which has taken place into the stomach, and will also remove the blood. Before making up his mind that a tumor of the stomach has disappeared the surgeon should be sure that it is not concealed beneath the ribs, as a mistake of this nature has more than once occurred.

Poirier mentioned an instance in which he had been deceived in the disappearance of a tumor of the umbilical region. Three months later he found a tumor under the ribs which was doubtless the same one, drawn up there by the contraction of the gastro-hepatic epiploon due to infiltration of the neoplasm.

Schwartz saw a gastric tumor disappear within four weeks after the performance of a gastro-enterostomy. He concluded that it was benign, and of an inflammatory nature. When he saw the patient again, less than a year later, he felt nodules, which he was sure were metastatic ones. The tumor was undoubtedly cancerous and had been drawn under the ribs by the retraction of the pylorus.

Ricard spoke of the importance of stopping all hemorrhage. He lost one patient after pylorectomy from bleeding into the stomach. It is not sufficient to rely upon the suture to control all bleeding points. The larger vessels should be separately tied.

On November 8th Routier showed a patient upon whom he had operated for extra-uterine gestation. As she had had several chills, each one of which had been followed by a rise in temperature and an increase in the size of the tumor, he was surprised to find that there was no suppuration but simply an aseptic hematocele. No cause, other than the hemorrhages, could be assigned for the rise of temperature.

Pozzi said that hemorrhage is accompanied by a fall in temperature, but that the absorption of effused blood may cause it to rise.

Tuffier treated a patient with hemothorax. A rise in temperature made him suspect suppuration and he aspirated. Aseptic blood was withdrawn. In this case the rise of temperature followed the hemorrhage by a considerable interval.

At the session of November 22d, Nelaton advocated resection of the hip-joint for coxalgia. The results obtained in adults and adolescents compare favorably with those obtained by conservative methods.

Felizet traced one hundred children who suffered from coxalgia in infancy and found that all excepting twelve of them had died of the disease or its complications. Under such circumstances a radical operation is not out of place, and he has performed it on three hundred children. The results have been generally satisfactory. The shortening is usually not more than one to two inches, but it may reach two and five-tenths to three and five-tenths inches. Even with the maximum shortening it is easy for the patient to walk if he wears a suitable apparatus.

Kirmisson took quite a different view of the subject. He advocated conservative treatment; early injections of iodoform in ether, etc., rather than operation, especially in the case of children. Many times resection is followed by a sinus because the operator is not able to remove all of the diseased tissue. He had recently examined ten patients who had undergone resection of the hip-joint for tuberculosis. Three of these patients presented fistulæ; the thigh in four was held at a vicious angle, while no one of the ten had less than two and one-half inches of shortening, and in some of them the shortening amounted to six inches. It is often no advantage to have mobility at the hip-joint, as a patient may be prevented from walking by this very mobilty. December 6th the discussion of this subject was continued. Schwartz reported a successful excision of the hip in a child aged fifteen years. Ten years later there was only one and three-quarter inches of shortening, and the patient walked and rode a bicycle with ease. By operation upon patients in whom the disease is more extensive, such a good result cannot always be obtained. He had recently operated upon such a one a second time without getting beyond the disease.

Consolidation in ununited fractures brought about by the administration of the thyroid gland was the subject of some remarks by Potherat, who reported that two patients had been thus treated with success. The treatment lasted from ten day to two weeks. One patient developed symptoms of cerebral hemorrhage on the eleventh day. Other observers have reported similar successes with thyroid medication, which cannot, however, be unreservedly advocated on account of the alarming symptoms which follow excessive doses.

At the Medical Society of the Hospitals, November 10th, Joffroy described some of his successes in curing patients of the morphin habit. He laid down two all-important principles: (1) Never attempt to demorphinize a cachectic patient. First improve his nutrition and build up his strength; (2) keep the patient in ignorance of the precise day in which the reduction of the

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drug begins, and continue this plan until the poison has been completely suppressed. The fear of suppression of the drug greatly aggravates the symptoms caused by its withdrawal.

On November 17th Gaucher gave the history of a patient whose death had been caused by the subcutaneous injection of calomel to the amount of two grains. Four months elapsed between the injection of the mercury and the death of the patient, but owing to the insoluble character of the mercury its absorption would necessarily be slow.

At the session of November 24th, Widal spoke of Kernig's sign, produced by meningeal hemorrhage. The subject was a man aged thirty-eight years, who suffered an apoplectic stroke while apparently in full health. He regained consciousness in some hours. He presented neither fever, paralysis nor muscular contraction, but complained of an intense headache and lumbar pain. The pupils were slightly dilated. Kernig's sign (ability to hold the leg extended on the thigh, while lying down, but inability to do so while sitting in a chair) was present and the question of meningeal hemorrhage was at once raised and settled affirmatively. Nine days later the patient died. Much fluid blood and a large clot were found in the subarachnoid space and the spinal column was full of blood. Neither the convolutions at the base of the skull nor upon its convexity had been pressed upon by the blood. This case showed that Kernig's sign may exist without inflammation.

At the Biological Society, October 28th, Onimus stated that he had long believed that the value of ipecac in the control of pulmonary hemorrhage is due to the nausea which it produces. He has employed it with complete success in metrorrhagia. His practise is to give every two hours a capsule containing 1.6 grains of Dover's powder and one-sixth grain of powdered ipecac. The administration of such capsules until nausea develops will check the abnormal flow of blood and menstruation will cease naturally. During the menstrual intervals the patient should take one powder at bed-time.

At the session of November 11th, Tuffier mentioned the success he had in producing anesthesia by the injection of cocain into the lumbar vertebral canal. By this means he was able to remove an enormous recurrent sarcoma of the hip absolutely without pain. In six minutes from the time the injection was made all sensation below the umbilicus had been lost. Sensation for pain did not return for an hour. This new method of producing anesthesia below the umbilicus merits further trial in suitable cases. The anesthesia produced is perfect, but the amount of cocain employed (2 centigrams in 1 or 2 c. c. of water) is not without danger, as shown by the vomiting and headache produced in certain cases in which it was employed. Instances of vertigo and collapse were not uncommon in the earlier use of cocaine hypodermatically for simple operations.

SOCIETY PROCEEDINGS.

NEW YORK ACADEMY OF MEDICINE—SECTION ON ORTHOPEDIC SURGERY.

Stated Meeting, Held November 17, 1899.

A. B. Judson, M.D., Chairman.

Deformity of Pott's Disease.—Dr. W. R. Townsend presented a boy, fifteen years of age, who developed Pott's disease in the lower dorsal and upper lumbar region six years ago. Two years ago, having recovered with considerable posterior curvature, after treatment by the plaster of-Paris jacket, he fell from an ice-wagon, striking on his head. Plaster of Paris was reapplied. He presented a projection on each side at about the level of the twelfth dorsal vertebra. The spinous processes could be felt between the elevations, which were very marked and might have been supposed to be calluses following fracture of the ribs near the vertebral column.

Dr. R. H. Sayre said that in addition to the anteroposterior curve there was lateral displacement, which might well have been the result of vertebral fracture.

Dr. S. Ketch said that the bony projections were secondary formations, the result of traumatism and were distinct from the spinal disease.

Rickets in a Dwarf.—Dr. Townsend presented a girl, six years of age, 35 inches in height, the average height at that age being between 40 inches and 42 inches. There was enlargement of the epiphyses of the long bones, with an enlarged head, prominent chest and protruding abdomen. She was a mouth-breather, and failure to grow normally might have been due partly to adenoids and insufficient oxygenation. There might have been obstruction in the posterior part of the nose, although the result of inspection anteriorly had been negative. The characteristic appearance of the skin and facial expression of cretinism were absent.

Dr. Sayre suggested enlargement of the air-passage by treating the tonsils and adenoids.

Dr. Ketch said it would be of interest to know whether this relief would promote normal growth.

Dr. H. S. Stokes said that the patient was probably a constitutionally lymphatic child, one of a class of patients in whom the administration of anesthetics is attended with danger. Without hastily making a positive diagnosis of this condition, he suggested that the use of anesthetics be preceded by a thorough physical examination.

Pott's Disease or Fracture.—Dr. Townsend presented a girl, six years of age, with a very obscure history. Two years ago, when living with her grandmother, after an accident in which she fell down a flight of stairs, striking the back of her neck, a bony prominence had been noticed, with difficult respiration and a habit of support-

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ing her head with the hand placed under the chin. Kyphosis was marked, as shown by the accompanying cut, involving the sixth and seventh cervical and the first and second dorsal, with a depression of the upper cervical vertebra.

Dr. A. B. Judson thought that the number of the involved vertebrae pointed away from fracture, and towards Pott's disease. The elements of diagnosis in orthopedic cases might be arranged in the following order of relative importance: (1) Signs (objective); (2) symptoms (subjective); (3) history as given by the mother, and (4) history as given by the grandmother.

Dr. Sayre said that a forward position of the head in cervical Pott's disease is frequently attended by difficult breathing. He thought, however, that the child had suffered a fracture and recalled the case of a man who had fallen down stairs, striking the back of his head. Partial paralysis of the arms developed from pressure. A

Pott's Disease or Vertebral Fracture.

diagnosis of Pott's disease had been made, but the signs and history indicated a fracture.

Dr. Townsend said that the treatment, at least, is not in doubt. The affected vertebra should have complete rest, either by a plaster jacket and head-spring, or by a posterior spinal support and chin-piece. The latter would be less conspicuous and give better support, with or without the addition of supports going up the back of the head, as might be determined by the progress of treatment, which should be prolonged until the disappearance of all signs of an acute condition. Ultimately the patient would carry the head erect without much deformity, as is the rule in cervical disease thus treated.

Durability of Plaster Jacket.—Dr. Stokes related the history of a case of Pott's disease in a girl who was four years of age when first seen in September, 1894. The duration of the disease was two months. The tenth dorsal vertebra was affected. The plaster-of-Paris jacket had been applied anew seven times at intervals of from eight to fifteen months, the average being eleven months. No pain or discomfort had been traced to the apparatus. At the last application, on October 13, 1899, it was found that a small stone had slipped into the jacket and caused an erosion which had healed in a few days.

Dr. Townsend had seen plaster jackets that had been worn two years.

Dr. L. W. Ely cited a case in which the jacket had been reapplied at intervals of thirteen and eight months without excoriation.

Dr. Sayre referred to the case of a child who had worn a solid jacket for two years.

Dr. H. Gibney cited three cases: (1) A boy seen in 1891; aged four years; location, middle and lower dorsal region; emaciation, and a large psoas abscess. The first jacket was worn two months, the second one year, and the third had been applied two months ago. There had been no increase of deformity, the abscess had been to a large extent resolved and the general health had improved. (2) A boy, aged six years; tenth dorsal; first jacket worn three months; the second, eleven months, and the third was applied three months ago. The local condition was favorable, and the health had improved. In the third case, that of a woman of twenty-seven years, a firmly-fitting jacket had been worn for a year without inspection, with freedom from pain and discomfort, and with good effect.

Dr. Sayre cited two cases in which patients had not done well with jackets that were removable, but which progressed favorably towards recovery when the immovable dressing had been applied. In both cases the treatment had been modified in its early stages by the overweening kindness of the grandmothers of the children. He had seen cases in which efforts to replace comfortable jackets by new ones had not been brilliantly successful, it having been a long time before the patient was again made comfortable. For obvious reasons a jacket should not remain in place too long on a child who is growing fast.

Dr. V. P. Gibney said that more important than the question of time is that of applying the jacket so as to give good support and avoid excoriations. A jacket well applied would not disturb the skin and should be durable. In the case reported by Dr. Stokes the trifling excoriation had soon healed and a cure had been effected by the prolonged splinting of the back.

Dr. Sayre said that excoriations can generally be avoided by a careful application of the jacket.

Dr. Stokes said that the percentage of excoriations is small, and in ten cases the trouble had been due to the jacket in four cases and to foreign bodies, little things such as pennies and button-hooks, in six cases. Excoriations caused by a jacket are evidences of a want of skill and experience on the part of the surgeon.

Dr. Sayre said that the skin could be kept clean and healthy by passing a whalebone inside of the jacket and so pulling up and down a fine handkerchief dampened with alcohol.

Dr. H. Gibney said that a solid jacket should be

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applied over a long strip of linen or gauze six inches wide, which could be daily wet with alcohol and drawn back and forth.

Plaster and Steel.—Dr. Ketch said that the condition of the skin should be made the subject of stated investigation, not to prevent excoriations, but to ascertain whether the diseased vertebral column is being given all the mechanical support which the toleration of the skin warrants. The use of a steel apparatus facilitates an occasional and desirable estimate of possible decrease or increase of deformity, which is impossible with the immovable dressing. Changes in the shape of the patient, from growth or otherwise, should meet with corresponding changes in the pressure made by the apparatus.

Dr. Townsend said that the frequent removal of the jacket or brace is one of the worst things that can be done. It is not practised in the treatment of fractures. In Pott's disease we seek proper anchylosis at the seat of the disease. We therefore immobilize the vertebral column. So long as the jacket is clean and the skin healthy we can forego the doubtful advantage to be gained by frequent inspection and rely on the effectiveness of the apparatus.

Dr. Ketch said that the removal of the brace for alterations, when done with ordinary care, cannot delay or interfere with consolidation. The more scientific procedure is to use an apparatus which is under intelligent surgical control.

Dr. V. P. Gibney had failed to see that important benefits can be gained by taking off the apparatus from time to time. If sure of the diagnosis and of a well-fitting plaster jacket, he is confident of a good result.

Dr. Sayre said that in the cervical region, and anywhere above the tenth dorsal, a jacket should be supplemented by the jury-mast and by a brace to control the shoulders. Traction and control of the movements of the head are very important. He often makes use of a metal and leather support to make a base for the jury-mast.

Dr. H. Gibney commended the method of application in which the patient rests on two untempered steel rods bent to fit the shape and elevated from the table, partly held up by two assistants, who make gentle traction, the rods being drawn out while the plaster is setting.

NEW YORK NEUROLOGICAL SOCIETY.

Stated Meeting, Held December 5, 1899.

Frederick Peterson, M.D., President, in the Chair.

Multiple Sclerosis and Muscular Atrophy.—Dr. Graeme M. Hammond presented a case of multiple sclerosis occurring in the person of a man, thirty-eight years of age, exhibiting symptoms resembling those of progressive muscular atrophy. This combination is quite rare. The patient is a locomotive fireman by occupation and has a good personal and family history. About one month after an attack of the grip, ten years ago, his present trouble began. The first symptom was a paralysis of the internal rectus of the left eye, and this was followed by weakness of the left superior and the right internal rectus. At the present time, in addition to these symptoms, there is left hemianopsia. About one year ago there occurred a sudden loss of smell on both sides. About six years ago he begun to show symptoms of locomotor ataxia. The knee-jerks were absent. Last January he noticed weakness in the little and right fingers of the right hand. This weakness extended to the other fingers and was accompanied by atrophy. The atrophy is now well marked in both upper extremities, and fibrillar twitchings may be noticed in the affected muscles. These muscles respond slightly to the galvanic current but not at all to the faradic. This history is very characteristic of multiple sclerosis. In 1897 a similar case was reported in one of the German journals. In the case presented, true intention tremor and scanning speech are not present. The patient may be suffering from a progressive muscular atrophy engrafted upon a multiple sclerosis, but it is also possible that the sclerotic changes have taken place in an unusual position in the anterior horns. The optic nerves have remained normal.

Dr. B. Sachs said that it is his impression that the case may be almost anything else than multiple sclerosis. This diagnosis does not seem justified in the absence of nearly all of the cardinal symptoms. The case is certainly puzzling, but reminded one of a case of tabes with progressive muscular atrophy, and the President of this Society reported such a case some time ago.

Dr. Joseph Collins said that he hesitates to make this diagnosis after a hasty and superficial examination, nevertheless he cannot but feel that this is a case of locomotor ataxia plus progressive muscular atrophy. It is possible that it is an example of syringomyelia and tabes, for he has had such a case under observation for a long time.

Dr. George W. Jacoby agreed with the last two speakers. Certainly the symptoms in the upper extremities and the optical symptoms resemble those of a nuclear affection, while the symptoms presented by the lower extremities are like those of tabes. It is rather presumptive to make a diagnosis after Dr. Hammond has studied the case so carefully.

Dr. Frederick Peterson thought this patient presented all the symptoms of locomotor ataxia. Atrophies of this kind are not very uncommon in locomotor ataxia. Several years ago he had exhibited to this society a case of typical locomotor ataxia with three symmetrical quadrants of vision lost, so that the person saw out of only one-quarter of each eye. He therefore looks upon the case as a locomotor ataxia presenting the unusual symptoms already cited.

Dr. Hammond replied that at first he had also looked upon his case as one of locomotor ataxia with ocular symptoms, but, on studying it more

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carefully, he could not find the slightest indication of syphilitic infection, the man having indeed been singularly free from previous illnesses of any kind. He was temperate in his habits, was not neurotic, and presented an unusually good personal history. Again, his tabetic symptoms have not been at all prominent; the Romberg symptom has been hardly noticeable, and there have been none of the bladder or sexual symptoms of tabes. The fact that there have been lesions of the optic, the third, and the olfactory nerve, coming on respectively at intervals of several years, he looks upon as proof that this is a sclerosis affecting these different nerves. An affection of the posterior columns in disseminated sclerosis is not at all unique. The atrophy in the hands, is, however, decidedly unique.

Intracranial Growth.—Dr Phillip Meirowitz presented a man, thirty-eight years of age, who had come to him on December 1, 1899, complaining of amblyopia of the left eye. He is entirely blind in the right eye from an injury inflicted with a piece of steel. The disturbance of vision first appeared in the summer of 1898 and reappeared four months ago. These "blind spells" come on several times a day and last about eight minutes each time. They have continued altogether for about six weeks and have been unaccompanied by pains. A tremor in the right upper extremity also developed about the same time as the trouble with the eyes. Jerking of the right arm has been quite marked at night. Vertical headache has been present and quite troublesome some months ago but is no longer present. About the middle of last July he was seized with attacks of vomiting after taking food, but improved under milk diet and the administration of iodid of potassium. About this time he had a sudden loss of consciousness and again two or three months ago. There is no distinct history of syphilis. Examination shows dilatation of the left pupil and good reaction to light with absence of nystagmus. Tremor of the right arm is quite marked and is aggravated by movement. His gait is good; the knee-jerks exaggerated; there is no ankle-clonus. There are no sensory disturbances. Dr. Valk has examined the eyes with the ophthalmoscope and found a papillitis. There is no mental dulness and no impairment of the memory. The speaker is of the opinion that there is an intracranial growth and believes that its location in the cerebellum accounts for most of the symptoms. He is inclined to believe that it is a syphiloma because of the effect of treatment with the iodid and the lack of definiteness regarding a possible syphilitic infection.

Dr. S. B. Onuf said the patient was under his care at the time that he received the iodid. There was then a staggering gait, a marked intentional tremor, increased knee-jerks and ankle-clonus on the right side. His eye showed marked choked disk and a number of retinal hemorrhages. He at first hesitated between a diagnosis of tumor and multiple sclerosis. Dr. Coffin had expressed the opinion that the shape of the hemorrhages—small and wedge-shaped—pointed rather toward syphilis. The man was then put upon rapidly increasing doses of the iodid and improved promptly. The dilatation of the pupil and the intentional tremor were noticeably controlled by this treatment. He did not doubt that the trouble was syphilitic, but could not accept the theory that all of the symptoms could be explained by one syphiloma.

Dr. Meyrowitz replied that Dr. Francis Valk, in his recent ophthalmoscopic examination, found the retina entirely normal. The absence of disturbance of speech and of nystagmus and the presence of papillitis seem to him sufficient to exclude multiple sclerosis. It is, of course, quite possible that there are a number of lesions, but in cases in which the symptoms can be explained by one lesion this, of course, seems the more rational.

Tumor Compressing Cauda Equina.—Dr. B. Sachs reported two cases of compression of the cauda by tumor, in both of which the symptoms had been relieved by operation. The first patient was seen on September 3, 1897, in consultation with Dr. Wyeth. The second patient presented himself at the Mount Sinai Hospital in the service of Dr. Meyer. The first patient, fifty-six years of age, has been suffering for eighteen months with severe pains in the lower extremity and, more recently, with spasm of the muscles. He was shot in the leg during the Civil War. When seen by the speaker he presented marked cachexia, severe pain and violent spasm. The pain was neuralgic in character and radiated from the lumbar region of the spine down the posterior aspect of the thigh to the foot. The spinal column was not specially sensitive except over the second lumbar vertebra, at which point pressure elicited pains like those complained of ordinarily. There was a distinct diminution of tactile pain and temperature sense at the upper and inner portion of the right thigh. The right knee-jerk was absent. The vesical and rectal reflexes were not impaired. That the neoplasm was extradural was probable because, if intradural, the symptoms would have been more symmetrical. He had urged Dr. Wyeth to operate for the removal of the growth and the operation had been done at once. Upon exposure of the spinal canal a tumor the size of a small cherry was revealed, adherent to the dura and bone. Microscopical examination of this mass showed it to be an alveolar sarcoma. As much as possible of the diseased tissue was removed. Five days after operation the patient was able to be up and around, and had been remarkably comfortable. The spasms had ceased. One month after operation the patient returned to his home in the South.

The second patient, thirty-nine years of age, was admitted to the Mount Sinai Hospital on October 9, 1899. Some years ago he was told he had pulmonary tuberculosis and had lived in California until apparently cured. He was of

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emotional temperament, and had come to the hospital with a diagnosis of locomotor ataxia. About one year ago his first symptoms appeared. Examination showed normal reaction of the pupils; no tremor of the tongue or face. There was a distinct kyphos involving the twelfth dorsal and three upper lumbar vertebræ, but there were no tender points except between the third and fourth lumbar vertebræ. There was no marked interference with the vesical and rectal reflexes. The physical signs in the lungs were suggestive of tuberculosis. There were no strictly ataxic symptoms, but there was distinct paresis of the lower extremities. The strictly unilateral character of the sensory changes pointed to a probable growth in the lower portion of the spinal column, but, in deference to those who thought it possible that there was a tuberculosis of the spine, suspension and fixation of the spine had been attempted. This has not yielded any results. The disease is evidently progressive and mercurial and iodid treatment has proved negative. On November 10th, at his suggestion, Dr. Gerster attempted laminectomy on the second and third lumbar vertebræ. At this operation a gelatinous mass was exposed and it was found that the body of the third lumbar vertebra had been invaded by the disease. The tumor extended only to the lower margin of the second vertebra. The tumor was removed. It had evidently compressed the cauda equina. Sections of the tumor showed it to be a small-cell sarcoma Three days after operation sensation in the leg seemed to be improved. Improvement had been steady, but the patient has been compelled to remain in bed. There is reason to hope for at least a temporary recovery—certainly life has been prolonged by the operation.

Commenting upon these cases, the speaker said the first case had been diagnosticated as a chronic neuralgia previous to coming under his observation. The bilateral distribution of the pain, the absence of marked vesical and rectal symptoms seemed to point to the cauda equina and not to the lumbar enlargement, and the tender spot had served as a valuable guide in both cases. There are few chronic spinal processes that follow the slow course of such spinal tumors. An exploratory laminectomy, if properly done, is practically harmless, particularly if done in the lumbar or dorsal regions.

Dr. Joseph Collins said the cases presented should be a cause for much congratulation on the part of the reader of the paper, as well as of the surgeon who operated. The history of the first case pointed unequivocally to the presence and location of an intraspinal tumor, and he was glad that Dr. Sachs had had the courage to urge operation. He was reminded of a case seen by him in which he had endeavored to have a glioma operated upon, but the surgeons had arrived too late to be of assistance. He felt sure that the mortality in these cases was not so great that neurologists should not be on the alert to diagnose them and urge operative intervention.

Dr. Peterson added his congratulations to those of the last speaker. Tumors in this particular locality were more difficult of diagnosis than in other portions of the cord. One important feature of the paper is the aid that the sensitive area or the deformity afforded in establishing the diagnosis.

Dr. Sachs, in closing, emphasized the point that even if the sensory changes were very slight they should be reckoned with in making the diagnosis. This was well exemplified in the first case. Another point insisted upon was that he had managed by pressure upon a definite point to elicit the same pain as that of which the patient had complained. This had been extremely well marked in the first case.

Dysphrenia.—Dr. William Hirsch read a paper with this title. The term "dysphrenia" has been applied to the secondary or sympathetic psychoses in contradistinction to the idiopathic or mental diseases, such as mania and melancholia. The secondary psychoses, which are produced by bodily diseases, are not characterized by the same uniformity of symptoms that mark the idiopathic variety. In the secondary psychoses there are frequent remissions with perfect lucidity during the course of the disease. Outbreaks of violence may be quickly followed by stupor. A further characteristic is the occurrence of somatic symptoms as loss of pupillary or patellar reflexes, rise of temperature, irregularity of the heart action and certain vasomotor phenomena, such as edema. In the secondary psychoses, the interstitial tissues and particularly the blood-vessels are the ones at first and mainly affected. This is in accordance with the accepted pathology of the systematic spinal diseases. The changes in the interstitial tissues are produced by the diseases starting outside of the brain, such as the acute febrile diseases. There are a few cases in which, purely from the mental symptoms, one is justified in making a diagnosis of dysphrenia, even though ignorant of the exact nature of the underlying bodily disease. A case of this kind was then reported by Dr. Hirsch. The patient was a young, neurotic girl, seen by him first on September 5, 1896. She then presented the condition of hallucinatory confusion. After an interval of quiet, on February 17, 1897, she became violent, and developed hallucinations of hearing and sight. At this time the temperature was normal. After about ten days she became stupid, her pupils were contracted, and the pulse was sixty. After about one week, automatic movements of the hands and head appeared. On March 14th menstruation came on and she quickly became normal and remained well for ten days. In April, 1897, she was given thyroid extract and quickly recovered. She remained well for nearly two years. On February 2, 1899, she unexpectedly developed the same violent symptoms as before. She showed some transitory improvement again under the administration of thyriod extract, but soon passed into a condition of dementia. After about three months she be-

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came quieter; the pupils and patellar reflexes returned; the temperature became normal and her breasts, which had been much enlarged, returned to their natural size. Since that time her mental state has been good. The clinical features of this case evidently do not correspond to any primary psychoses. A loss of reflexes is generally considered as indicative of permanent change, but it is not impossible that this symptom may exist in functional disturbance. In the case just reported the menstrual disturbances are not the cause but a symptom of the disease, as in the fourth or worse attack menstruation had little or no effect on the mental state. The speaker suggested that the term "originary (or idiopathic) dysphrenia" should be applied to those cases, which, in their clinical aspects, resembled those known to be produced by toxic or infectious agents, but in which no cause for such infection could be found.

Dr. Brown said that he had been deeply interested in the paper and had seen a number of somewhat similar cases presenting a physical basis for the mental disorder. In some cases of even very severe mental disease the mental symptoms clear up during the later stages, for example, of tuberculosis.

Dr. Mary Putnam-Jacobi asked Dr. Hirsch if he looked upon general paresis as a secondary psychoses, and also in what way the case of dysphrenia reported by him differed from recurrent attacks of hysterical insanity; also how far the failure to distinguish personality was really a mental symptom and how much the result of personal caprice.

Dr. B. Sachs said that probably all present had seen cases similar to the one described. He has had under observation a number of women between the ages of fifteen and twenty who have passed through very remarkable periodical mental changes. He was much impressed with the suddenness with which these changes had occurred. All of these patients were members of strongly neuropathic families. They passed quickly from a condition of mania to one of depression. A patient now under his care has regularly had periods of six months or more in which she has been in a condition of maniacal excitement, and has then very suddenly passed into a condition apparently normal, but really only a stepping-stone period of excitement. It was questionable, in his mind, whether the class of cases spoken of in the paper represented a distinct entity in mental diseases. Such marked physical changes as described in the paper have not come under his observation.

Dr. Peterson expressed his belief that dysphrenia would be a convenient term for those cases that would be difficult to describe under other names. The trouble is that these terms in psychopathy are usually founded upon clinical symptoms, with but little reference to the pathology. so that after a time the word comes almost to include all insanity. Last summer, at Heidelberg, he found about four varieties of insanity recognized, *viz.*: paresis, senile dementia, catatonia, and dementia precox. About fifty per cent. of the cases in Germany at the present time are called catatonia, and the balance are included under the term dementia precox.

Dr. Hirsch said it was certainly remarkable how many insane patients pass through a disease like typhoid fever without developing any mental symptoms—indeed, the patient whose history has been given has just passed through a typhoid fever in this way. He, too, recognizes the great evil that results from introducing names into psychiatry, but dysphrenia is not a new name, and certainly is useful in connection with a case like the one reported, which could not be well placed in any other classification. Dr. Sachs has referred particularly to circular insanity—to cases essentially chronic in their nature—but he had been discussing cases that were really acute. The mental disease consists of a series of psychopathic conditions. The diagnosis of dysphrenia can only be made from a detailed history and long study. By a primary psychosis he means a mental disease originating in the parenchyma of the organ; by a secondary psychosis, one originating in the interstitial tissue; hence general paresis is a secondary psychosis.

SELECTION.

A SURGICAL EPISODE OF THE PENINSULAR WAR.[1]

TO UNDERSTAND something of the grim realities of war we must place it, as it were, under the microscope by studying records of individual cases. Such a case may be found in the memoirs of Captain Boothby,[2] who was wounded in the Peninsular War, and left in the hands of the enemy. The story of his sufferings will further serve to give an idea of military surgery in the early days of the present century.

Captain Charles Boothby was an officer of the Royal Engineers, who was present at the battle of Corunna, and in July, 1809, was wounded at Talavera, his leg being shattered by a musket ball. After the battle he was carried by four men on a bier to the town of Talavera.

The men were hampered by their arms and accoutrements, and the irregular motion caused the wounded man excruciating agony. The road lay through a thick wood; alarms of ambuscades were frequent, and the bearers often laid their burden on the ground while they reconnoitred. It was three hours after the receipt of the wound that the hospital was reached. From the hospital he was carried to a lodging in the town. There a surgeon (Mr. Bell) cut off his boot, and, having examined the wound, said there was no chance of saving the leg, and the amputation must be above the knee. He passed a night of agony, and at dawn Mr. Bell went to the hospital to seek an-

[1] From the British Medical Journal, December 23, 1899.

[2] A Prisoner of France. The Memoirs, Diary, and Correspondence of Charles Boothby, Captain Royal Engineers, during his last campaign. London: Adam and Charles Black. 1898.

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other surgeon, Mr. Higgins. It was several hours before the latter came, and when he at last made his appearance it was only to tell Boothby that there was but one case of instruments, which it was impossible for him to bring from the hospital, while crowds of wounded, both officers and men, were begging for assistance.

Higgins came again in the afternoon, bringing with him Bell and another surgeon named Gunning with instruments. Boothby resigned himself into their hands. The surgeons, having examined the wound, went to another part of the room to consult, after which they withdrew "to bring the apparatus," as Boothby thought. Hours, however, passed without their return, and Gunning, having at last been found, said he was too much occupied. Boothby then said to his servant to go again into the street, and bring the first medical officer he happened to fall in with. He soon returned, bringing with him Mr. Grasset, of the 48th Regiment. He on examining the wound declared that he was by no means convinced of the necessity of the amputation, and would on no account undertake the responsibility of so serious a measure without consultation.

The conversation that followed gives such a picture of the surgery of that day that it may be quoted:

"But," said I, "I suppose an attempt to save the leg will be attended with great danger?"

"So will the amputation," answered Mr. Grasset; "but we must hope for the best, and I see nothing to make your cure impossible. The bones, to be sure, are much shattered, and the leg is much mangled and swollen; but that may all suppurate and come right, so that I cannot think of amputating without more advice. But have you been bled, sir?" he asked.

"No," said I.

Mr. Grasset thought bleeding absolutely necessary, and at Boothby's request he bled him in the arm.

It appeared afterwards that Gunning's departure was due to his conviction that gangrene had already set in, and that it would be cruel to disturb Boothby's dying moments by a useless operation. As the wounded man had taken nothing but vinegar and water since his misfortune, the bleeding was succeeded by an interval of "painful unconsciousness."

In the evening another surgeon, named Fitzpatrick, came at his request to see him. The surgeon said, as soon as he looked at the wounded limb, that if he had him in London he might attempt to save it, but in the circumstances it would be hopeless. Asked if he had come too late, the surgeon said "No." But in this, according to Boothby, he dissembled, as there were already strong symptoms of lockjaw, which did not disappear till many hours after amputation.

It was arranged that the operation should take place in the morning, and on Boothby asking if something could not be given him to ease his sufferings, which were scarcely endurable, the surgeon took a towel, and, soaking it in vinegar and water, laid it on the wound, which gave considerable relief.

Fitzpatrick stayed with him till morning, changing the lotion at intervals. The account of the operation may be given in the patient's own words:

"Fitzpatrick and Miller of the Artillery, Higgins and Bell, staff surgeons, were the gentlemen who at 9 o'clock prepared to perform this serious operation upon me. Having laid out the necessary instruments they put a table in the middle of the room and placed on it a mattress. Then one of the surgeons came to me and exhorted me to summon my fortitude. I told him that he need not be afraid, and Fitzpatrick stopped him, saying he could answer for me. They then took me to the table and laid me on the mattress. Mr. Miller wished to place a handkerchief over my eyes, but I assured him that it was unnecessary—I would look another way. The tourniquet being adjusted, I saw that the knife was in Fitzpatrick's hand, which, being as I wished, I averted my head.

"As I do not choose to gratify the curious (at the expense of the feeling) reader, I shall not describe an operation the details of which are perhaps more shocking to reflect upon than to experience. But, as it is a common idea that the most painful part of an amputation lies in sundering the bone, I may rectify an error by declaring that the only part of the process in which the pain comes up to the natural anticipation is the first incision round the limb by which the skin is divided—the sensation of which is as if a prodigious weight were impelling the severing edge. The sawing of the bone gives no uneasy sensations, or if any, it is overpowered by others more violent."

"Is it off?" said I, as I felt it separate.

"Yes," said Fitzpatrick; "your sufferings are over."

"Ah, no; you have yet to take up the arteries."

"It will give you no pain," he said, kindly; and that was true—at least, after what I had undergone the pain seemed nothing.

"I was carried back to my bed free from pain, but much exhausted. The surgeons complimented me upon my firmness, and I felt gratified that I had gone through what lay before me without flinching or admitting a thought of cowardly despair. I desired that the amputated limb might be brought to me that I might examine the wound. The request was opposed with some force by the surgeons; but I persisted, and found a certain satisfaction in observing that the limb wore an appearance to the last degree mangled and hopeless. This moderated my tender sorrow at beholding for the last time that active and invaluable servant."

For some time after the operation the dangerous symptoms increased, his stomach refused sustenance, and a constant hiccough was recognized by the surgeons as a fatal prognostic.

In the night of the 30th he managed to retain some mulled wine strongly spiced, and in the morning he took two eggs. This was the turn;

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his unfavorable symptoms subsided, "and the flowing stream of life began to replenish by degrees its almost deserted channels." So he continued to improve until August 3rd, when in the movement of the troops his friends had to leave him. Fitzpatrick stayed till the 4th. In the morning he promised to engage for Boothby the attendance of Higgins, who was left senior surgeon, but a rumor that the French were approaching spread a panic through the town, and Fitzpatrick appears to have left in a hurry.

The battle of Talavera resembled that of Glencoe, as the victors were afterwards obliged to retire and leave their wounded to a vanquished enemy. An order was given that the wounded in the hospitals who were able to move should set off instantly for Oropesa, as the French were at hand.

"The sensation this notice produced is beyond all description. I lay perfectly still. I had made up my mind that it would be better to fall into the enemy's hands than to attempt to go away. Other men in situations like my own had placed themselves across horses and mules, and fruitlessly attempted to escape. The road to Oropesa was covered with our poor, wounded, limping, bloodless soldiers. On crutches or sticks, with blankets thrown over them, they hobbled woefully along. For the moment panic terror lent them a force inconsistent with their debility, their fresh wounds, and their recent amputations. Some lay down on the road to take their last sleep. The rest, unable to get further than Oropesa, fell afterwards into the hands of the French when their troops entered that town."

Boothby admits that he was ill at ease, especially from the fear that the panic terror that had been communicated to the hospitals might extend to the surgeons, whose assistance, he says, was of more to him than any other consideration. The evening of the 4th, however, closed in quietness uninterrupted by the French, and Boothby had a visit from the senior medical officer, Mr. Higgins, which gave him great comfort, as the conversation of the surgeon taught him "to confide in his conduct."

Like a prudent man Boothby employed the interval of tranquility, short as it was, in laying in a stock of provisions. Mr. Stanniland, assistant surgeon of the artillery, said the French were coming, and Mr. Higgins had gone out to meet them. In about an hour Mr. Higgins came in and made the following announcement:

"I have been out of town above two leagues, and can see nothing of them. If, however, they do come, they will have every reason to treat us with attention; for they will find their own wounded lying amongst ours, provided with the same comforts, treated with the same care. I have been completely round myself to see that the treatment of their officers and men was in every respect upon the same footing as our own, so that they will have no possible pretext for complaint; and I can boldly claim their protection and respect. Whenever they come, I shall meet them and solicit the General to visit the hospital with me."

When the French did come, on August 6th, Higgins rode out to the General who commanded the cavalry, and on making the representation he had preconcerted, found the General full of the most noble sentiments. He said the fortune of war had thrown some Englishmen into the power of the French, who would be incapable of abusing it. He added:

"And as for you medical gentlemen who have been humane and manly enough not to desert your duty to your patients (many of whom are Frenchmen) in the hour of difficulty and distress, and have done us the honor to trust yourselves in our hands, not the smallest constraint will be put upon your motions. Stay amongst us as long as you please; go when you will. You are as free as the air you breathe. And whenever you think proper, our safe conduct and unfeigned thanks shall attend you to your countrymen."

Boothby adds the following glowing eulogium of the conduct of the devoted medical officer:

"We had afterwards reason to know how much we were indebted to this good beginning arranged by Mr. Higgins. Only their wish to support some appearance of consistency checked their natural disposition to ill-treat us. Throughout Mr. Higgins displayed the character of no common man. To be loaded with the charge of such groaning multitudes—almost wholly unprovided with medicines, medical stores, or provisions—would have been regarded by most medical men as a task of no common arduousness; and to perform it at the expense of personal liberty and all prospects of advancement was a case of peculiar hardship. But to prepare for the approaching crisis—determined to ride forth and parley with the enemy, and persuade him that he owes you respect, gratitude—this is the province of an officer of the first class; and Mr. Higgins in so acting—in adopting the duties of every station that happened to be vacant, in letting no office stop for want of an officer, but supplying the place of the absent and encouraging the present—discovered a manly superiority, a dauntless indifference to events that communicated confidence through every inferior branch, and secured to his suffering countrymen the blessings of a perfect medical attendance, and the protection and respect of their enemies."

"The artillery surgeon was unremitting in his attendance, meeting Mr. Higgins at my quarters invariably at 10 o'clock every morning, and their visit was usually repeated in the course of the day. As Mr. Higgins had of necessity intercourse with the French commanders, from him I heard all the news. His mind was of such a cheerful cast that it kept its tone amid all the difficulties and all extremities. Never did I receive from his presence other than consolation. Since the battle he had never taken off his clothes —seldom, indeed, had rested; was ever in want of what could never be procured; and yet no whining—no complaining—no giving up!"

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On August 14th Boothby is able to announce that his stump is going on very well, and he hopes to be in Madrid in the course of two or three weeks. On August 25th he writes that his limb, after a good deal of struggling owing to a propensity in the muscles to retract, is now almost healed. The propensity here referred to required a tightness of bandage which made him suffer extremely, and broke his rest till he became accustomed to it. On October 1st he went out on crutches, attracting the notice of the French soldiers and of the Spaniards. The former invariably expressed surprise at seeing the success of an amputation which, in the hands of their field surgeons, they knew to be almost always fatal.

REVIEWS.

Progressive Medicine. A Quarterly of Advances in the Medical and Surgical Sciences. Edited by HOBART AMORY HARE, M.D. Volume IV., December. Philadelphia and New York: Lea Bros. & Co., 1899.

THE present volume of "Progressive Medicine" is, if possible, of even more general interest than the preceding numbers.

In the chapter on diseases of the stomach the review of the recent literature of gastroptosis and of dilatation of the stomach, subjects which are every day becoming of more and more interest, is very fully discussed. Stren's method of recognizing the position of the stomach by means of the slight shadow seen upon the abdominal wall during the respiratory movement, when the stomach is somewhat distended, is the latest interesting development in this subject. The patient should be placed in about the same position with reference to the light as is necessary in observing the shadow cast by the diaphragm on the thoracic wall during respiration, the so-called Litten's phenomenon.

With regard to the treatment of gonorrhea, Dr. Belfield is of the opinion that it is more the method of irrigation than the use of permanganate which gives such good results in the Janet treatment. His experience with permanganate has been unsatisfactory. He has found, however, protargol, the substance introduced some two years ago by Neisser of Breslau, to be very useful.

In the chapter on orthopedics the review of the subject coxa vera, curvature of the neck of the femur, is especially complete and up to date. This disease has been, and is yet, the cause of a good many errors in the diagnosis of pathologic conditions about the hip-joint. Although the subject is considerably less than ten years old, its literature is very extensive. The practical points necessary for the recognition of the disease and the methods of treatment suitable for various types of cases are here discussed in a manner that cannot fail to be of great service to the busy practitioner.

The discussion under diseases of the kidneys of the etiology of uremia is an extremely interesting review of recent thought and experimental work upon this subject. The principal fact brought out is that the blood-vessels in the brain, owing to the circumstance that they are not supported by firm surrounding tissues, are not so much under the influence of vasoconstrictor nerves as are the other peripheral vessels in the body. It is probable, therefore, that when all the other minute vessels are narrowed those of the brain, on the contrary, are dilated. This deprives of all value many of the present theories of the cause of uremia.

Under physiology an interesting observation is quoted from Jacques Loeb, who has proven by experiments that alkalis decidedly hasten the process of oxidation in animal tissues, and thus act as stimulants to their activity, while diluted acids have the opposite effect. He thinks the addition of small quantities of alkali would increase the beneficial effect of saline transfusion, and asks whether it would not be advisable to give alkalis in fevers to counteract the decrease in alkalinity of the blood.

In the chapter on hygiene some interesting statistics with regard to morbidity are quoted. In Michigan it has been found that most sickness is caused by rheumatism and neuralgia. Dr. Baker suggests that one of the reasons for the greater frequency of intestinal diseases in the summer time may be the fact that the toxic substances which cause peripheral disturbances like rheumatism and neuralgia in colder weather, may, in warmer weather, be able to affect unfavorably only the somewhat irritated mucous membrane of the intestinal tract.

In the practical therapeutic referendum at the end of this volume, Dr. F. O. Thornton gives a series of prescriptions that are applicable to various conditions, the details of which have been given in various parts of the present and the preceding volumes of "Progressive Medicine." Most of them are either newer combinations of old remedies, or are favorite prescriptions of new remedies, which have been found most useful in late years. It is unfortunate that the Latin in this section was not reviewed with a little more care. The barbarism *fiant in chartulæ* occurs a number of times, and this is by no means the only one that may be noted even on cursory reading.

THERAPEUTIC HINTS.

Treatment of Pruritus by Salicylate of Methyl.—After successfully employing this remedy for the relief of pruritus, local and general, Leredde recommends the following pomade as the most serviceable means of application. Being of a thick consistency, it adheres closely to the skin. It is best adapted to the treatment of local pruritus and never causes irritation of the skin.

℞ Methyl. salicyl.....3 ss
Zinci oxid.
Vaselini.
M. Ft. unguentum. Sig. External use.

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THE MEDICAL NEWS.

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ORIGINAL ARTICLES.

THE OPERATIVE TREATMENT OF MYOPIA OF HIGH DEGREE BY THE REMOVAL OF THE CRYSTALLINE LENS.[1]

BY CHARLES STEDMAN BULL, A.M., M.D.,
OF NEW YORK.

ONE of the scourges of modern civilization is myopia or near-sightedness. It may be regarded as one of the hereditary enemies of civilized man. Owing to its early development in childhood it may be considered a sort of social plague, for it reaches all ranks of life and limits the usefulness of the individual in all pursuits. It is a serious menace to modern education, and so widespread has it become that in the near future the condition of the eyes of our children will necessitate some decided modification in the standards for entrance into our higher schools and colleges. This is not the place for any detailed consideration of the subject of modern education, although it is entirely germane to the subject; but a brief plea may be made for an earlier and more careful examination of the eyes of school children, and for a stricter investigation into the whole subject of school hygiene, including the ventilation and lighting of school-rooms, the relative height of desk and seat, the arrangement of blackboards and charts for illustration, the length of the study-hour, and the frequency of intermissions from study.

The great danger of myopia lies in the progressive tendency of the disease in many young patients, and the question of operative interference has to do only with the progressive form of hereditary degeneration of the choroid and retina; a myopia complicated not only by progressive posterior staphyloma, but by the development of degenerative changes in the retina and choroid, whether predisposing or hereditary.

The disadvantages of high myopia are very great and are often positively inhibitory of any close work. Patients are rarely able to wear concave glasses stronger than D 12 or D 14, because such glasses make the retinal images of objects very small, and because of the distortion of these images by the lateral rays. Very myopic individuals cannot occupy themselves with any close work for any length of time, on account of the physical and ocular fatigue induced by bending over the work, and the continuous strain on the accommodation and conveyance. Various suggestions have been made by ophthalmologists in the past to overcome these difficulties. It was at one time supposed that the elongation of the optic axis in myopia was due solely to the pressure of the external ocular muscles on the eyeball, and hence tenotomy of the external recti muscles was advocated. Later Galezowski actually proposed to excise a crescentic piece from the cornea for the purpose of arresting the progress of the myopia.

The removal of the lens in high myopia was first proposed by Beer in 1817, who claimed that the condition of these myopic patients was much improved thereby; their vision was increased and their capacity for work improved, and they were protected from the dangers of increasing myopia. Beer, however, had no followers and nothing more was heard of the subject until 1858, when Mooren again advccated it. The operation was opposed by Von Graefe because it did not arrest the progress of the myopia, and by Donders who considered the removal of the transparent lens as a punishable offense. The operation again languished until Fukala took up the subject of the removal of the lens in 1887, and has continued to be the stanchest advocate of the operation. A very brief résumé of the work done during the last ten years naturally follows.

Fukala's first paper was published in 1890 and was based on nineteen cases, all of the patients under twenty-four years of age, who could read Jaeger No. 1 at the far point, and who showed no disease of the fundus. He first made a small discission of the anterior capsule and repeated this as often as necessary, trusting to the absorptive power of the eye to get rid of the soft lens matter. Subsequently he prefaced the discission by an iridectomy upward. He claimed the following advantages for the operation: (1) Distinctness of distant vision; (2) enlargement of the retinal images; (3) relief from the extreme strain of accommodation; (4) relief from the disadvantage of bending the head over the work; (5) restoration of binocular vision for the near-point. Fukala's next important paper on the subject was published in 1894. He did away with the preliminary iridectomy and advised an extensive laceration of the anterior capsule, and he removed the swollen lens as soon as possible through an incision in the cornea. He considered that young patients promised the best results, and was inclined to limit the operation to patients under forty. He found that the improvement in vision after removal of the lens was from two to five times greater than before the operation and sometimes surpassed this. In some cases there was an arrest in the progress of the myopia. He confirmed our ideas as to the cause of the progressive tendency, *viz.*, first, the

[1] Read before the New York State Medical Association at its Sixteenth Annual Meeting, held in New York, October 24, 25, and 26, 1899.

stretching of the ocular coats in consequence of congenital tendency, and, second, the unfavorable influence of the accommodation maintained so constantly in young myopes.

Fukala's third important paper appeared in 1897. In it he called attention to the fact that the acuity of vision of an eye depends on three factors: (1) The size of the retinal images; (2) the intensity of illumination of the latter; (3) the perceptive ability of the retina. In comparing the visual acuity with the size of the retinal images it should be remembered that the latter do not present lines but surfaces, and hence their superficial contents must be considered. He endorsed Schanz's investigations, who found that the loss of light caused by refraction and reflection is less in eyes from which the lens has been removed than in the eye with the lens in place, for the eye, by this operation, is reduced to the simplest optical apparatus, having but one refracting surface. This advantage is the more marked if the eye becomes emmetropic by the operation, needing no correcting lens. He considers that the improved sharpness of vision after extraction is due to: (1) The increased size of the retinal images; (2) increased intensity of illumination of the retina; (3) the optical apparatus is simplified and the lenticular reflexes are absent. He, therefore, claims the following advantages for the operation: (1) A varying amount of improved vision for distance, with considerable diminution of refraction; (2) central vision is improved from four to twelve times, caused by the advancement of the second nodal point producing an enlargement of the retinal images; (3) the operation does away with the strong convergence of the optic axes and with the inclination of the head forwards for near vision, both of which points are strong factors in the causation of increasing myopia. The patient after operation can read and work at a much greater distance from the object, and may even require convex glasses; (4) all accommodation is lost, which is one of the factors active in causing increase of the myopia; (5) if both eyes are highly myopic and of unequal visual power, the weaker eye develops strabismus divergens in consequence of the disturbed binocular visual act, and here the operation is particularly indicated and often restores the binocular visual act.

Since the publication of Fukala's first paper, other observers have taken up the subject, and in the years that have elapsed the number of operators has gradually increased and now includes some men of conservative position and established reputation. They have, however, been confined almost entirely to Germany and France. The advocates of the operation all claim the same advantages, as follows: The aphakial eye, or the eye deprived of its lens, becomes by the operation either very slightly myopic or else hypermetropic; the retinal images are larger; the eye has greater visual acuity; the far point recedes from the eye; excessive efforts at convergence and also the congestive phenomena disappear.

Vacher, the most active advocate of the operation among French ophthalmologists, at first advised it only in those cases in which the visual condition prevented the patients from working, and only in eyes with more than D 14 of myopia. Where the myopia was more than D 18, he advised operating on both eyes. He at first claimed a satisfactory result in every case, although the visual acuity was not markedly improved. As his experience increased, however, he grew more enthusiastic and he has become venturesome to an inexcusable degree. He now advises extraction of the transparent lens, without either discission or iridectomy. He regards the operation as a phophylactic against both increase of the myopia and detachment of the retina. He operates on one eye only from preference; and if the patient has only one useful eye, he does not operate. He considers that neither choroidal degeneration nor extreme age of the patient is a contraindication.

Schweigger, a very conservative observer, also favors the operation in cases of more than D 16. He does first a discission of the anterior capsule, and then extracts without an iridectomy, which he considers entirely unnecessary. He makes the corneal incision downward, 2 mm. above the corneal margin, extracts the nucleus and as much soft lens substance as possible, and whatever lens matter remains behind may safely be left to absorption. He does not think that the acuity of vision is much increased by the operation. Pflueger corroborates all the advantages claimed by Fukala. He does not favor extraction of a senile lens in high myopia. He recommends laceration of the anterior capsule with Bowman's stop-needle, with or without iridectomy, according to the age of the patient. Extraction should follow within a week after the discission. Extensive degeneration of the choroid in the region of the macula and great age of the patient both contraindicate the operation. The younger the patient the better the prospects. One eye should be operated on at a time, and if the swelling of the lens be marked, extraction should be done at once.

Schroeder draws the following conclusions from his somewhat large experience: (1) The danger of the operation in otherwise normal myopic eyes is trifling; (2) even with chororetinal changes in the fundus, a retinal hemorrhage is only to be feared when the changes are at the macula; (3) the changes in the eye caused by the operation do not increase the dangers to which such eyes are subject, such as detachment of the retina and choroiditis; (4) a lessening of these dangers by hindering the increase of the myopia and the development of choroiditis has not been proved. Von Hippel, another conservative observer, prefers to operate on both eyes if both are highly myopic. He does not regard choroidal degeneration as a contraindication. He lacerates the anterior capsule and goes deep into the lens, but takes care not to wound the posterior capsule, so as to avoid prolapse of the vitreous.

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He considers iridectomy unnecessary, and never operates on myopia less than D 12. Lagleyze believes that extraction of the lens is indicated in all cases of progressive myopia over D 14. He makes a discission and then a simple linear extraction in the cornea. He operates on both eyes if identical conditions exist in both eyes. Choroidal changes are not a contraindication unless the macula region is deeply involved.

Wray's views are not entirely favorable. Three objects are to be attained by the operation: (1) To enable the patient to work easily at the reading distance; (2) to arrest or prevent degenerative changes in the retina and choroid; (3) to prevent a detachment of the retina. He considers that detachment of the retina is a comparatively frequent mishap after the operation. The latter is to be regarded as a success if it prevents progressive degenerative changes in the fundus and enables the patient to work. Floating opacities in the vitreous and diminished tension would contraindicate the operation. Hess is one of the more radical advocates of the operation. He makes a corneal incision upward with the narrow knife and lacerates the anterior capsule at the same time. He then immediately extracts the lens. Frohlich is not a partisan of the operation, because of a number of secondary complications, *viz.*, (1) After discission there may be incarceration of the sphincter margin of the iris in the wound; (2) after linear extraction there is apt to be incarceration of the periphery of the iris and of the lens capsule in the corneal wound; (3) detachment of the retina after secondary operations.

Swanzy is an advocate of the operation in proper cases. He advises a simple discission without extraction, this to be repeated as often as may be necessary as the method the least likely to be followed by detachment of the retina or intraocular hemorrhage. It is not to be recommended except in myopia of D 10 or over, nor in any case where serious lesions of the fundus or vitreous exist. The best period of life is childhood or youth. The advantages to be gained are enormous, while the risks are slight. The acuteness of vision is usually markedly increased and goes on improving for several months before reaching the maximum. Panas draws the following conclusions based on about five hundred operations. In high progressive myopia above D 16 the operation is perfectly justified, provided the visual acuity is sufficient and provided there are no macular lesions and no amblyopia from strabismus or other cause. The younger the patient, the more favorable for the operation. Discission of the anterior capsule followed by simple linear extraction without iridectomy is the best method for young subjects. In adults it is better to do an iridectomy. Atrophic choroidal lesions do not contraindicate the operation, unless they involve the macula or are accompanied by detachment of the retina.

Otto recommends first extensive laceration of the anterior capsule with a sickle-needle. Atropin is then instilled, the eye is bandaged for forty-eight hours, and the patient carefully watched. The iris is kept dilated and there is generally little or no reaction. The swelling of the lens goes on rapidly or slowly according to the age of the individual. If severe pain and tension come on warm compresses should be used, but if the symptoms continue the lens should be extracted. He extracts by means of a bent lance-knife, the wound being made upward in clear cornea, the lens matter being removed by pressure and counter-pressure. He never uses a spoon. Iridectomy may be avoided in most cases. In children, discission alone generally suffices.

Sattler, another conservative operator, bases his conclusions on ninety-five cases. In no case was the myopia under D 12, and most of them varied between D 18 and D 24. Iridectomy was not done in any case. He uses a hollow lance-knife, makes the wound from 1½ to 2 mm. from the upper corneal margin, and 6 to 8 mm. long. He opens the capsule horizontally with a sharp hook, and then passes the hook within the capsule with its back towards the equator of the lens and posterior capsule, so as to loosen the entire lens substance. He then by pressure and counter-pressure removes all the soft lens matter possible. The iris is then replaced. There is very little reaction, and the patients are sent home on the seventh day. He claims that by this method of operating the period of healing is shortened, there is no reaction or irritation, and the resulting astigmatism is trifling and transient.

Hess, Hirschberg and Von Hippel endorse this extraction without needling and without iridectomy. Jessop believes that in children and young adults, with high, uncomplicated myopia, the operation should be undertaken because of the great advantages to be gained. Jackson holds that it is not proper to resort to operation in any case where the progress of the myopia can be arrested by wearing correcting lenses and ordinary hygienic precautions.

Knapp does not approve of removing a transparent lens, for, owing to some of the cortex remaining behind, the results will be unsatisfactory from suppuration, or iridocyclitis, or intraocular hemorrhage, or detachment of the retina. He thinks that the real value of this treatment of myopia will be recognized when the period of its boom is passed.

This brief résumé of the more important literature of the subject has shown that some of the most careful and conservative authorities have become advocates of the operation in selected cases and under certain wise restrictions.

The optical effect of the removal of the lens upon the refraction of the eye is a matter of scientific interest, and in axial myopia may be calculated with sufficient exactness by means of a formula, having first measured the radius of the corneal curvature. The optical results obtained by aid of the extraction of the lens in these cases confirm the generally admitted fact that the great majority of these cases are due to an elongation of the optic axis. The opinion that the lens plays

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an important part in causing high myopia and that it has a greater refractive power than the lens in emmetropia is proved to be erroneous. The amount of reduction in the refraction of an eye by the operation is much greater than would be expected, and is estimated by Ostwalt as averaging D 16. The ideal effect to be gained from the removal of the lens would be a post-operative myopia of D 2 or D 3 in which no glass is needed for near work, and even the distant vision is better without glasses than before the operation with strong concave glasses. If a condition of emmetropia results from the operation, the patient will require a moderate convex glass for near work.

My own experience in operating on cases of high myopia has been extremely limited and the number of cases is too small from which to draw any conclusions as to the advantages or disadvantages of the operation. But a careful review of the really important publications on the subject, in addition to my own limited experience, may justify perhaps the presentation of some theoretical conclusions.

Before all is it important to carefully examine and study your cases, before deciding on a serious operation, which is accompanied by the possible occurrence of grave dangers. The actual existing condition of the myopic eye with reference to its seeing power should be definitely settled, and also the fact whether the degree of the myopia has recently increased and to what degree. The age and occupation of the patient and the necessary demands made upon the use of the eyes should be considered. The possible subjective annoyance caused by the wearing of correcting glasses should be noted. A careful ophthalmoscopic examination of the fundus should be made under atropin mydriasis, with special reference to the condition of the blood-vessels of the retina and choroid, particularly in the equatorial region. The meridians of greatest and lowest refraction should be determined by the ophthalmometer likewise under atropine mydriasis. A careful examination should be made of the visual field by the perimeter. Finally, the tension of the eye should be accurately tested. The intra-ocular tension of a highly myopic eye is apt to be above the normal standard, and a minus tension would cause suspicion of serious disease of the fundus.

The possible *dangers* from the operation are four in number and are in the order of their importance and frequency as follows: (1) Intra-ocular hemorrhage from rupture of a choroidal or retinal vessel; (2) detachment of the retina, with or without hemorrhage; (3) secondary glaucomatous symptoms, such as increased tension, ciliary injection and pain, all resulting from the swelling of the lens after laceration of the capsule; (4) infection of the corneal wound or iris, or both. The third danger need not give uneasiness, as the symptoms of increased tension subside immediately on the extraction of the swollen lens. The danger from infection of the wound has been reduced to a minimum by modern antiseptic surgery, and almost never occurs.

A possible complication of the operation is an anterior synechia by adhesion of the iris to the cornea at the point of entrance of the needle in discission, but this should never occur if the iris is kept dilated by atropin. Another possible complication after the extraction of the lens is an incarceration of the iris in the corneal wound or an actual prolapse of the iris through the wound. This latter is a rare occurrence and when it happens the prolapsed iris should be immediately excised.

The conditions which should contraindicate any operation may be enumerated as follows: (1) Extensive degenerative changes in the retina, and choroid in the region of the macula lutea; (2) detachment of the retina already existing; (3) membranous opacities in the vitreous, which indicate more or less extensive disease of the choroid and of the walls of the blood-vessels; (4) the previous loss of one eye from whatever cause; (5) decided loss of transparency of the cornea from previous inflammation; (6) any form of contagious conjunctivitis, particularly trachoma; (7) advanced age of the patient, and (8) a myopia of less than D 12.

Indications for the Operation.—The indications for the operation are given first by the degree of visual acuity actually existing at the time.

(1) If the central vision of the myopic patient with the best possible correction by glasses is not sufficient for the needs or social position of the patient, the operation is indicated, first on one eye and then on the other, if no contraindications exist.

(2) If there are unmistakable evidences of a rapid increase in the amount of near-sightedness, true progressive myopia, and if the myopia is D 12 or more, the operation may be done, of course, under the previously mentioned restrictions.

There seems to be no reasonable doubt that by the removal of the lens, the vision of all myopes is decidedly improved and this improvement continues for some months after the operation. The results seem to be equally good for all grades of myopia, and the success in complicated cases seems to be relatively as good as in the uncomplicated cases. The wearing of moderate convex glasses after the operation is much less annoying to the patient than the wearing of strong concave glasses before the operation. The age of the patient certainly does influence the duration of the healing process, but not necessarily the final effect of the operation. The description of the operation forms a fitting termination to the paper. In children it is better to employ general anesthesia, but in adults the operation may be performed under cocaine anesthesia. All the steps of the operation are done under the strictest aseptic precautions.

The patient's face is first washed with boiled water and aseptic soap, and then thoroughly cleansed with a solution of bichlorid of mercury (1-1000). Towels wrung out in the same solution are then placed around the patient's face and over the hair, until all is covered but the region of

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the nose and the two eyes. The cornea having been rendered non-sensitive by cocaine, a speculum is introduced beneath the eyelids so as to keep them open. The conjunctiva over the inferior rectus tendon is then seized by a pair of forceps with blunt teeth and the eyeball is rotated gently downwards. A Bowman's needle or a very slender straight narrow knife is then passed through the cornea about 2 mm. from the outer margin and through the pupil, and a free laceration of the capsule either horizontally or vertically is made. If the patient is in middle life or over, a crucial laceration of the capsule should be made and the needle should also tear apart the superficial layers of the lens. Under no circumstance should the posterior lens capsule be wounded. The needle or knife should then be rapidly withdrawn, and an aseptic solution of atropin, two to four grains to the ounce, should be instilled. An aseptic bandage must then close the eye. This bandage should be removed the following morning and atropin again instilled in order to keep the iris widely dilated. If the lens becomes rapidly swollen by imbibition, the bandage is to be discarded and the eye kept under the influence of atropia and hot bathing until the symptoms of irritation subside. If the tension becomes rapidly increased and the symptoms of secondary glaucoma are imminent, the lens must be extracted at once. In the hands of a skillful operator, the narrow cataract knife is to be preferred to the lance knife. I make the incision upward in clear cornea, exactly as if for the simple extraction of a senile cataract, and about one millimetre from the sclerocorneal margin. Then by gentle pressure and counter-pressure the wound is made to gape and the soft cortex is pressed out through the wound. Usually the iris prolapses, but this need not interfere with the removal of the lens substance. By gentle manipulation the soft cortex is pressed out until nearly the entire lens mass is removed. The eye is then washed out with a warm saturated solution of boric acid, the prolapsed iris is replaced in the anterior chamber with a spatula and a drop or two of a ten per cent. solution of cocaine is instilled. The eye is then bandaged aseptically.

I prefer to do this operation while the patient is lying in his bed, thus avoiding all jarring by transportation. Unless the patient complains of severe pain, the bandage is not removed for forty-eight hours. It is then taken off, the eye carefully irrigated with a (1-5000) bichlorid solution, atropin instilled, and the eye is again bandaged for another period of two days. The bandage is then removed, the same irrigation and instillation repeated, and a mask is put over the eyes, nose and cheeks and tied around the head. Should the posterior capsule become opaque as it sometimes does, no attempt should be made to lacerate it until a period of three months has elapsed. It should then be cut through cleanly by a sharp, slender knife, and not torn through by a needle. In this way the danger of a subsequent cyclitis from traction is minimized.

GONORRHEA; ITS DANGERS TO SOCIETY.[1]

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(Continued from p. 45.)

WE have learned in the last few years that gonorrhea plays a very extensive rôle as one of the causes of arthritic rheumatism. It seems probable that this knowledge will lead to a change of opinion with reference to the cause of a large number of chronic cardiac complications which now are attributed to simple rheumatism. The matter is yet, however, *sub judice.*

A feature of gonorrhea of very special significance is the fact that its infectiousness may persist for a very long time in spite of seemingly successful treatment of the local affection of the genitalia. Men and women can for months and years be capable of infecting others although they have only very slight objective symptoms, and practically no subjective symptoms, and therefore with seeming good reason consider themselves entirely well. It is evident how pernicious are the consequences of this fact and how much seriousness it adds to investigation undertaken for the diagnosis and prophylaxis of the disease. Sexual passion tempts frivolous and conscienceless individuals unfortunately only too often to sexual intercourse in spite of a knowledge of their infectious disease. How can we hope to keep the unnumbered thousands of individuals who still have gonorrhea from spreading the disease through sexual congress when they practically know nothing and can know nothing of the fact that the disease has persisted?

The greatest triumph of the modern medical struggle with gonorrhea seems to me to be the fact that we can now by careful search for gonococci make clear the dangerousness of chronic gonorrhea. Conditions which were formerly considered to be practically harmless and which, so far as our worthless clinical investigations went, actually seemed so, we are now able, by the aid of our microscopic and bacteriologic investigations, to pronounce with certainty to be infectious.

This knowledge has also laid the foundation for a successful rational therapy of the disease. The indication is, cure an acute gonorrhea at once before it has succeeded in bringing about the serious and intractable complications and sequelæ which so often follow. This knowledge has made it clear to us, also, that in spite of objections and certain difficulties that attach to the method, if we are to trace out for prophylactic and hygienic reasons the existence of gonorrhea, especially in what regards the examination of prostitutes, we must call microscopic and bacteriologic science to aid us. Fortunately, the non-medical public is beginning to realize the importance of this knowledge of the significance of gonococci, and,

[1] An answer to the second question of the Conference for the Prophylaxis of Venereal Disease, held at Brussels, September, 1899. Translated by Dr. James J. Walsh for the MEDICAL NEWS. All rights reserved.

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therefore, it is to be hoped that gradually the group of gonorrhea patients who most demand our sympathy, namely, the young married women who are infected by their husbands shortly after marriage, will gradually disappear. This eminently to be desired consummation will be reached all the sooner and surer when every physician is master of and habitually makes use of the technic for the microscopic diagnosis of gonococci.

The large number of young women who are thus infected by their husbands might well be classed as suffering from gonorrhea insontium. There is, however, another important class of innocent gonorrhea patients. Not infrequently gonorrhea occurs in children, as an epidemic, especially in little girls. A great majority of the cases, however, are due to chance contact with the gonorrheal virus either from sleeping with an infected person, such as a mother or sister, or by incidental contact with infected linen, or bathing with others. These cases of gonorrhea in children may be followed by exactly the same serious consequences, even including fatal peritonitis, as occur in cases of gonorrhea acquired from sexual intercouse in adult life.

What are the social losses, that is to say, damages to the well-being of society in general, which the large number of cases of gonorrhea brings about?

Although the general mortality is practically uninfluenced by gonorrheal affections, even though we include herein the endocarditis, peritonitis, and the deaths from operation which occur as sequelæ of the disease, certainly the morbidity of the population is increased in a very striking way. This means: (a) That there is an enormous loss of working strength and in workmen's wages, due to the confinement to bed, residence in hospitals, and the fact that many are compelled to give up their occupations for a time because of their gonorrheal affections. (b) The disease involves large private and public expense. Least harm is done when the disease affects single people who have only themselves to care for. A married woman, however, is very likely not to escape the fate of gonorrheal pelvic disease since because of the small earnings of her husband she is not able to permit herself to take a rest. Were it possible for her at the beginning of the disease, and especially just after her first labor, to take good care of herself for some time she would very probably escape without serious consequences.

The woman's social condition and that of the family, with the worry for daily bread, becomes then the occasion for illness which brings with it as a result further serious consequences Sickness of the wife means in the household of the workman and among the lower classes generally, not only a lessening of the earning power of the family, but also the lack of the only power which keeps the household in proper order and so looks out for the physical and moral welfare of the man. If the wife is sick and ailing, depressed and nervous, often confined to bed, or if she must spend weeks or months in a hospital, the temptation for the man to prefer the saloon to the unpleasant surroundings of his own home and the occasion which his absence from home provides for the satisfaction of sexual passion illegitimately are too alluring for us to expect that a great many men would not yield to them.

If the man become infected for the first time after marriage, this usually happens during his wife's puerperium. Now, should he afterward infect his wife at a time when perhaps there are several children in the family, the lessening of the earnings because of the illness of the man and also that of the woman will be even more keenly felt and the injury caused by neglect of the children will prove of even more serious importance. It is sad to realize that in such cases we are apt to think of it as a bit of good luck if the wife should become sterile as a result of the affection. It is the influence of this thought which eventually determines the performance of an operation. It is certainly not without danger, but it is readily accepted because of the condition of helplessness and incapacity for work which has developed in the woman.

This whole chain of miseries, with the sacrifice of time and money which it involves, is repeated thousands and thousands of times in families as a result of the gonorrhea of the husband. When we consider it, it is surely clear how false is the common opinion and, unfortunately, also the legal regulation in the matter (at least here in Germany, as regards the workman's aid society) which debars patients suffering with gonorrhea from being treated in hospitals as they should be. The first link in the chain would thus be broken and the man prevented from inflicting injury on himself as well as on others.

In practise just the opposite happens. Since the disease is considered a shameful one the patient does his utmost to hide it as far as possible. Instead of going at once to a physician, or into a hospital, he has recourse to any method of treatment which friends or charlatans may suggest. Often enough he has not the means wherewith to pay for hospital treatment and the principle that a sufferer from venereal disease has a right to free hospital treatment is unfortunately put into practise in but very few countries. The best that can be hoped from any method of treatment that the patient will have is that the cure of his disease will only be delayed. Very often, however, the exacerbations and complications which we have sketched above supervene. These soon necessitate a stay in the hospital or confinement to bed and probably for a rather long period.

From this lack of treatment result all the sequelæ and relapses which more or less cause frequent and serious attacks of illness in later life. The worst feature of these chronic gonorrheal affections is in innumerable cases the persistent infectiousness which the man (and the woman) carry with them into marriage. In addition to the second victim, who is usually entirely inno-

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cent, there often comes a third, the child, which suffers from gonorrheal ophthalmia. (This is, of course, excluding for the moment all chance contagiousness of the disease for older children.)

If we are to look upon these venereal diseases as a punishment for illegitimate sexual congress, then it must be admitted that they are quite as much a punishment for the community as for the individual. They certainly prove a punishment for a very large number of absolutely innocent persons. To increase this so-called punishment by refusing to aid in every way possible those who are infected to get rid of the affection thoroughly, easily and conveniently, is to still further punish the community in which they reside.

It is very difficult to obtain an exact idea as to the extent of the mortality which results from operations for gonorrheal affections. Certain factors, such as the technic of the operator and aseptic and antiseptic methods of surgery, besides the variety of opinion with reference to the necessity for operation in these cases and the preference that some have expressed for conservative treatment, modifies very much any conclusion which might be drawn from the statistics that are at hand. It is difficult, moreover, to make the necessary separation between what are surely gonorrheal and non-gonorrheal affections of the uterine adnexa. Schauta lost 2 out of 33 positive gonorrheal affections on which he operated, that is 6 per cent. Of 134 probable gonorrheal affections operated on by other operators the mortality was 4, that is, 2.8 per cent. In operations for purulent salpingitis the death-rate was from 7 to 12 per cent; in the non-purulent form from 1.2 to 3.2 per cent.

A good idea of the loss of time and expense involved in the treatment of gonorrhea can be obtained from the number of days of treatment as recorded in hospitals.

For the various armies the following table gives these details:

	Duration of Treatment of Gonorrhea.					
	Total No. of Days of Treatment.			Average No. of Days of Treatment for each Patient.		
	1891-92	1892-93	1893-94	1891-92	1892-93	1893-94
German Army.....	213,694	232,112	245,073	29.4	30.9	29.3
Austrian "	329,400	318,126	318,168	36	37	36
Belgian "	24,824	23,920	33,830	27	26	34
French "	305,719	286,501	308,121	27	26	34

In Breslau in the year 1897-1898, out of 25,386 days of treatment for patients in the Royal Dermatological Clinic, 3465 were credited to 166 patients suffering from gonorrhea. In All Saints' Hospital, a municipal institution, the records gave 39,060 days of treatment in the Dermatological department during the year 1897. Of these 4175 were credited to 126 patients suffering exclusively from gonorrhea. These figures are relatively not large when taken by themselves; they obtain, however, a great significance if we bear in mind that the disease is due to direct contagion and that it is in a certain sense absolutely avoidable.

As far as prostitutes are concerned, the following figures are at hand for Breslau: In the year 1888, 193 individuals were treated for 6362 days. From July 1, 1889, to June 30, 1890, 193 persons were under treatment for 7336 days. In the year 1890, 211 persons for 6835 days. In the year 1891, 179 persons for 6994 days. The cost of treatment varied from thirty-five to sixty cents a day, so that the average yearly expense was 13,000 marks (about $3000). In the Vestre Hospital in Copenhagen the number of days of treatment for urethritis were as follows: In 1893, 30,704 days; in 1894, 34,788 days; in 1895, 30,410 days; in 1896, 36,883 days; in 1897, 23,893 days. The cost of such hospital treatment would be enormously increased if we were to institute a medical surveillance of prostitutes which were worth the while, and if inspection for gonorrhea were to be carried out with the detail necessary to prevent the escape of cases. To this end not only would the number of physicians have to be greatly increased, but the number of patients whom it would be necessary to treat would become very large.

We must make special mention here of the gonorrheal affection of the conjunctiva which frequently leads to unilateral and sometimes to total blindness. The affection is acquired during labor from an infected mother or in a case of adults by chance contact of gonorrheal pus with the conjunctival tissue. (In Egypt this gonorrhea of the eye is said to be very widely distributed even among adults. The contagion there, it seems, is usually carried by flies in the shape of purulent material, or even the gonococci themselves, from one individual to another.)

Even in our day, at least ten to twenty per cent. of all blindness is due to gonorrheal infection. In many institutions for the blind the number is even higher, as many as sixty per cent. of the inmates being blind from this cause. The number of such cases in the last fifteen years has become much smaller than formerly. The improvement in this matter is due to the introduction of the Credé method of instilling a 2 per cent solution of nitrate of silver in the eye immediately after birth. Before this method was employed the number of cases of gonorrheal ophthalmia that occurred in most obstetric institutions was 8 to 12 per cent. or even 14 per cent. of all births. And in every 100 cases of gonorrhea there were three to five cases of blindness, so that in some institutions as many as 6 to 12 per cent. of all the infants born became blind. In our time most of these institutions have not a single case of this form of infection to report. It is therefore very desirable that the Credé method should be employed after every confinement. It is extremely sad to think that in Germany, for instance, we have to-day some thirty thousand blind whose loss of sight is due to gonorrheal ophthalmia. They might have been saved their life-long misfortune by the employment of the Credé method. Besides the blind, however, it must be remembered that there are numbers of

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individuals whose sight is very much injured by affections of the cornea. The number of such cases in many sets of statistics averages 28 per cent. of all the sufferers from gonorrheal ophthalmia. The extent of ophthalmia neonatorum gives also a very plain indication of the frequency of gonorrhea in the female. The significance of the successful employment of the Credé method goes far beyond its mere application to gonorrheal ophthalmia. The successful results here obtained show that it would be possible to successfully combat the causes of all other forms of gonorrheal infection. Just in the same way as we are able with assurance to prevent by Credé's method the occurrence of gonorrhea of the conjunctiva, we could also prevent urethral gonorrhea if the Credé method with proper regulations could be employed after all sexual congress.

The second, and from a social standpoint, very important factor, is the sterility which results from gonorrhea. To my mind it is clear that gonorrhea prevents increase in the population much more than syphilis, although it has been the custom to lay most of the blame upon the latter disease. There is scarcely a doubt left now that more than 50 per cent. of the involuntary childless marriages and limitation of the number of children is due to gonorrhea and its sequelæ in man and woman. As in most cases the man infects his wife, at least 45 per cent. of these cases are due to him.

As far as regards the direct cause of sterile marriages, it is now well known that in one-fourth of the cases the cause is gonorrheal epididymitis and the consequent *impotentia generandi* of the male. Besides it must be remembered that a certain number of men suffer from aspermatism. Others, as the result of inflammatory processes in the prostate, ejaculate into their bladders. Finally, a number have lost the potentia coeundi in consequence of gonorrhea or its complications.

The cause of sterility is explained when azoospermia, that is to say, absence of spermatozoa, can be demonstrated in the male. It was Kehrer of Heidelberg who first pointed out this cause for sterility in the male. He found it in 30 per cent. of all the marriages in which he was consulted with regard to sterility. Lier-Ascher confirmed these figures. Simmonds examined the testicles of 1000 bodies for the purpose of finding spermatozoa. He found them absent in 33 cases. All of these had venereal histories. In 22 cases the cause was gonorrhea. If we accept the ordinary figures that in 1000 marriages 10 per cent. are sterile, then these 22 cases of azoospermia caused by gonorrhea represent the percentage of sterility in the male in 100 marriages; that is to say, 22 per cent. of all cases of sterility is due to this cause. Among 600 husbands of sterile wives Fuerbringer found in 83.3 per cent. either absence of spermatozoa or suspicious infrequency of spermatozoa.

My own experience is not sufficient, although I have had a number of cases under observation to enable me to give any statistics that would throw light on the subject. I have found, however, in every instance in which men consulted me about the sterility of their marriages, that whenever impotentia coeundi was not the cause, spermatozoa were always absent. In practically every case the cause was double epididymitis. To my mind there is not the slightest doubt that the most frequent cause of absence of spermatozoa is gonorrheal epididymitis. Authorities in every part of the world, Busch, Fuerbringer, Giacomini, Godart, Gosselin, Liegois, Lier-Ascher, have stated that in all their cases of absence of spermatozoa there had been a preceding epididymitis.

Not only has double epididymitis and funiculitis been set down as the cause of absence of spermatozoa, but in a number of cases where these affections seem to occur only on one side they appear to act as causes of the same condition. Thus far, however, funiculitis has been neglected, although it presents just as much hindrance to the passage of semen as does epididymitis and it not infrequently happens that while an epididymitis is running its course on one side a funiculitis is being overlooked on the other side.

It must be conceded that even double epididymitis does not always cause absolute sterility. In 24 married men who had suffered from double epididymitis Benzler found absolute sterility in 10 only. In 5 of the marriages there was only a relative sterility, while in 9 the conditions were normal. Unless one would wish to question the character of all 14 of the women in these cases, one must admit that in nearly 60 per cent. of the cases procreative power remains in spite of epididymitis duplex.

In 87 married men with epididymitis on one side Benzler found absolute sterility in 16 only; relative sterility in 10; normal power in 71. The procreative power remained therefore in over 81 per cent. of the cases.

In contrast to this we may consider 363 marriages in which husbands had suffered from gonorrhea but had not had epididymitis. In 10 per cent. of these there was absolute sterility; in 17 per cent. relative sterility; in over 89 per cent. of the cases at least some procreative power. These last statistics correspond very closely to the percentage of sterility which obtains in all marriages.

Another series of investigators give the statistics of women who consulted them for sterility. Of most value are the investigations of Lier-Ascher, who found that out of 227 women 121 were sterile because of gonorrhea, and in 42 of the cases the women had been infected by their husbands. Besides these 79 wives suffering from gonorrhea there were 15 others who had been infected by their husbands, who, themselves, were suffering from gonorrheal aspermatism. In addition to these 42 men with azoospermatia there were 11 in whom spermatozoa were infrequent and impotency seemed to be the cause of the sterility. In a series of 197 relatively sterile women

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gonorrhea was demonstrated in the husband only 35 times, although in 10 cases infection of the woman occurred during the puerperium.

Further statistics which show the relation of gonorrhea in the female to sterility are at hand. Noeggerath found among 81 women infected by gonorrhea 49 who were absolutely sterile. The remaining 32 women had borne only 39 children. Only one had as many as four children and only two had three children. Kehren found in 96 sterile marriages that 30 per cent. were due to absence of spermatozoa in the husband, while in 33 per cent. there were perimetritic exudations, in 8.3 per cent. amenorrhea, and in 4.1 per cent. vaginismus as a complication of the preceding gonorrhea. Kleinwaechter collected statistics of 648 sterile marriages. In 13 per cent. of these he found that gonorrhea in the female was the cause; this number is very small. There seems to have been a disporportionately large number of men affected by impotentia coeundi. Gruenwald, Kammerer and Chrobak report 53 per cent., 83 per cent. and 40 per cent. of endo-, meso-, and peri-metritis, all of gonorrheal origin, as causes of sterility in the female.

Williams insists that 73 per cent. of all abortions are due to endometritis of the cervix and body of the uterus.

I have not been able to give by any means an exhaustive idea of the severity of the affections which are due to gonorrhea. What I have said, however, taken in connection with the enormous distribution of the disease and its severe complications, must make every one feel that it is high time to sound a warning in the matter. Gonorrhea is a social danger for the people and requires the most careful attention from the authorities who are responsible for the public health. If we were able to do nothing to prevent the spread of gonorrhea, then, willy-nilly we should have to endure the evil. We now know, however, that the disease is always an infectious disease communicated from one person to another, and we can take measures to prevent its spread. No one is so optimistic as to believe that we shall ever be fortunate enough to get rid entirely of this serious popular plague. There can be no doubt, however, that by making use of all the means with which modern scientific medicine has supplied us we can lessen to a very large extent its ravages and can make its most serious consequences much milder.

It is not my purpose here to enter upon the ways and means by which this may be done. This is in fact the true task of the present conference. I cannot let pass the opportunity to compliment those who are mainly responsible for the conference on the fact that at length the occasion has come for the assembling of experts and authorities to discuss with proper publicity the problems connected with this important question. The first step in reform is for the public to know and to appreciate the dangers and the significance of venereal diseases. More effectual than all legal or police regulations will be the individual protection afforded by our present knowledge in this matter, if physicians and the laity will but realize our modern advances in this subject. I have not the slightest doubt that the present danger which threatens the human race from gonorrhea will be greatly lessened and the spread of the disease distinctly limited as the result of the discussion carried on here.

A VISIT TO THE NEWEST PSYCHOPATHIC HOSPITAL.[1]

BY FREDERICK PETERSON, M.D.,
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PRESIDENT OF THE NEW YORK NEUROLOGICAL SOCIETY.

IT was as a student in the psychopathic hospitals of Strassburg and Vienna in 1881-1882 that the writer was awakened to the great need of similar establishments in the United States, hospitals for the insane in close connection with the buildings of our medical schools, where students could obtain some practical knowledge of a branch of medicine which is certainly of much importance to the general practitioner to whom all of our cases of insanity come in the earliest and most curable stages. I had hoped long ere this to see such psychiatric clinics founded in our medical schools, as clinical adjuncts to chairs of psychiatry (which, alas, are still wanting). Whenever possible I have lifted my voice and wielded my pen to further this cause. In the *Medical Analectic and Epitome*, January, 1890, I buried my earliest written communication on the subject of psychopathic hospitals. This was at a time when London was carefully considering the advisability of a similar project, which missed fruition, I believe, because of political exigencies. I was eager that New York should be the first to build a city hospital for the care of the acutely insane. Hence I wrote:

"The great demand for psychopathic hospitals . . . is to be met in one place at least—London—and it is time that New York was waking up to the extreme necessities of her own insane. Bloomingdale, which has received hitherto the richer classes of insane, is about to be removed to some distance from the city. The islands are inadequate in accommodation to meet the requirements of these unfortunates. A psychopathic hospital in the heart of the city, and in the neighborhood of Central Park, say on Eighth avenue, to receive those requiring immediate care and the highest medical skill, is the prime necessity of the hour. Let the city or some private individual subsidize or endow it!"

In my inaugural address[2] as president of the New York Neurological Society, delivered May 3rd, 1898, I again brought forward the idea of the psychopathic hospital as follows:

"Ever since I observed the splendid facilities for study in some of the foreign psychiatric clinics, it has seemed to me a misfortune that not one

[1] Read before the Northwestern Medical and Surgical Society of New York, October, 1899.
[2] "New Paths in Psychiatry," Phil. Med. Jour., June 11, 1898.

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of our large cities on this side of the water is provided with such a center for psychologic investigation.

"Surely this great city, blessed with so many hospitals, charities and institutions of learning, possessed of so many citizens eager to employ their large wealth for benevolent purposes and for human progress, might well lead the cities of the new world in the establishment of a psychopathic hospital, a psychiatric clinic, fully equipped with all adjuncts for clinical, chemical, psychologic and pathologic investigation. A psychopathic hospital would accomplish great practical good. It would be a boon to the many insane now gathered daily into a pavilion at one of our hospitals merely for distribution to various asylums. In such a hospital many cases could be treated and cured, thus avoiding transfer and commitment to asylums. Medical students and special students of psychiatry would profit from the convenience of access to the psychiatric clinics and the young graduate would enter upon practise with some definite knowledge of insanity and its treatment. But the greatest value of the proposed special hospital would undoubtedly be the opportunities afforded for those aggregate studies by many specialists which are destined one day to discover the origin and cure of several of the psychoses, and incidentally to unravel some of the mysteries of mind."

In May, 1899,[1] I had the honor to deliver the annual address before the American Medico-Psychological Association, and in this, again, I made a point of bringing the psychopathic hospital before that distinguished body in the following words:

"It has long been an axiom among asylum physicians that early diagnosis and speedy removal to a special hospital for the insane are of paramount importance in nearly all acute psychoses. There are very few acute cases that cannot be more successfully treated in suitable special hospitals than in their own homes. Early diagnosis, if it means anything, means the diffusion of a practical knowledge of psychiatry among general practitioners. Now this object can be attained only through the establishment of psychiatric clinics in all of our larger cities, and especially in connection with medical schools. Clinical instruction in insanity is given as yet in but few of our medical colleges, and even where it now forms a part of the curriculum, it is given in a perfunctory way, the chair of psychiatry being generally combined with that of neurology, rather to the neglect of the former. Speedy removal to a special hospital necessitates ease of access, the least possible legal interference, and location in the centers of population. In fact, the same laws which govern the selection of sites for general hospitals are as appropriate for individuals sick from brain diseases as for those sick from lung, liver, or any other disease."

Indeed, why are they not more appropriate, if the relative importance of the diseased organ to life and happiness be considered? We should never dream of placing a general hospital for acute disorders in some remote region of the country. Why deal differently with acute disorders of the brain. Furthermore, one center of population in the commonwealth is no more entitled to benefit from the public treasury than another, so that the logical conclusion is that within the limits of each city of fifty thousand to one hundred thousand inhabitants there should be created by the State a special hospital for the reception and treatment of acute cases of insanity. Possibly isolated pavilions in connection with general hospitals might suffice for the needs of the smaller cities. Such hospitals for acute psychoses may be known as hospitals for nervous diseases, hospitals for mental diseases, hospitals for nervous and mental diseases, or, more briefly, following a recent suggestion, as psychiatric clinics or psychopathic hospitals. But the matter is of greater moment than the name. Since the acutely insane are ordinarily restricted, much as general hospital patients are, to their beds, wards, or rooms, location in the midst of a city is no greater disadvantage to the special than to the general hospital.

The law should be as lenient to this afflicted class of patients as is compatible with due regard to the preservation of their personal rights, never, however, for a moment forgetting that after all it is a sick man and not a delinquent with whom it has to deal. In the framing of laws for the commitment of the insane, delinquency has often quite eclipsed illness in the eyes of legislators. For our psychopathic hospitals, doubtless some emergency provision of ten days or more would be permitted before resorting to commitment by any legal process.

It seems to me, then, that the true method of dealing with the acutely insane consists in the creation of these special hospitals in all of our large cities. The more one examines the matter, the more convinced one becomes of the feasibility, economy, reasonableness, and humanity of such a course. It is the logical deduction from your axiom above referred to—early diagnosis and speedy removal to a hospital for the insane—and I venture to prophesy that before twenty years of our new century have passed there will be psychopathic hospitals in many of our American cities where now there exists not a single one. With the organization of such psychiatric centers, certain other important results will be attained. The profession as a whole will become more interested in, and more familiar with, the psychoses, owing to better facilities for study and observation. The chair of psychiatry in our medical colleges will become distinct from that of neurology. The city psychopathic hospital will gather to it all those spirits that are eager for discovery in the wide domains of physiology, psychology, pathology and chemistry in their relation to the central nervous system, for it is in the cities that most of these pathfinders reside, and

[1] "Some of the Problems of the Alienist," Med. Record, June 3, 1899.

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only in the cities that collective investigations by various laboratories become possible. Attached to the hospital for mental disorders, in order to supplement the methodical clinical studies there made, there will be a variety of laboratories wherein the biologic unit of man may be studied by an aggregation of specialists trained in many branches of scientinc work. Only in this wise will great discoveries and far-reaching results become attainable. There are good psychological laboratories now connected with a number of our universities, an outcome of the lively interest taken in recent years in the comparatively new field of physiological psychology; but their true sphere of usefulness and activity lies in combination with clinics and hospitals for nervous and mental disease.

"Not the least valuable feature of the psychopathic hospital with its laboratory annexes, will be an outdoor department or dispensary, to which will come not inconsiderable numbers of patients on the border-line of insanity, for still earlier treatment than the city insane hospital affords. Preventive medicine as regards disorders of the brain has never had such opportunity as will here be given to test the value of its methods."

While the psychiatric clinic or psychopathic hospital is an unknown institution in this country and in England and France, it is not a novelty, not a new and untried scheme, which we are asked to inaugurate. For more than twenty years it has been a success in Germany, and not as a solitary example, but in many towns and cities. There is but one university town in Germany which still lacks a psychopathic hospital, *viz.*, Kiel, and I had the pleasure this summer of looking over the plans of the psychiatric clinic which is about to be erected there. The Kiel clinic is to be built upon the model of the one at Halle. Thus two years hence there will be no university town in Germany lacking such an institution.

In August last I studied under the guidance of Prof. Kraepelin the system in vogue at Heidelberg, where there has been a psychopathic hospital in the midst of the city, adjacent to the other University hospitals, for some twenty years. This is now somewhat antiquated in point of construction, but there are over one hundred beds, and the clinical work of Kraepelin, the pathological work of Nissl and the psychological work of Aschaffenberg, testify to the value and importance of such a nucleus for the advancement of science in the domain of morbid psychology.

But now I approach the main object of this paper, *viz.*, a brief description of the newest psychopathic hospital in the world, which I visited this summer at Giessen (about an hour from Frankfort-on-Main). In the absence of Prof. Sommer, the director, I was indebted to Dr. Danneman, the senior assistant physician, and to Dr. Alber, the pathologist, for the opportunity of inspecting the design of the hospital and observing the methods of clinical investigation and psychological chemical and pathological study of the large material collected there. Giessen is a small town (some 15,000 inhabitants), the capital of the province of Upper Hesse. The University was founded in 1607. It possesses a large library, anatomical theater, observatory, botanic garden, chemical laboratory, museum of natural history, general hospital, infirmary, maternity, eye and other special hospitals, all situated in the midst of the town. Across the street from the general hospital and pathological institute (so near as to share in the lighting from a central electric plant) lies the group of eleven cottages which constitutes the *Psychiatrische Klinik zu Giessen.*

This clinical facility or convenience of access is of great advantage to the students of the University, since the observation of patients is not simply limited to the demonstration of cases at the clinical lecture, but they may be summoned quickly to witness transitory nervous and mental states, such as unusual phases of insanity, crises in general paresis, epileptic obsessions, and the like, as well as have the advantage of access to the wards at any time for the purpose of closer study of the patients. The eleven cottages which make the hospital are grouped together in a pleasant garden, and from the elevated position of all of the University buildings a fine view is presented in every direction, over the Lahn valley with its ruined castles and the wide expanse of rolling hills.

Aside from the residence of the superintendent or director and the kitchen building and administration building, there are four cottages for each sex on either side of the central structures. These four cottages or villas are thus divided: One for excited, one for restless and suicidal, one for quiet cases, and one for private patients. All of the buildings are heated from the kitchen building. The food is conveyed in suitable vessels in a cart constructed for the purpose from the central kitchen to each of the cottages. The electric lighting is derived from the general hospital plant. Something less than one hundred patients are accommodated. The overflow goes to the large country asylum in the province. The windows are nowhere guarded save in the cottages for violent and destructive patients. All of the modern conveniences and comforts are provided for in each structure. In each of the buildings marked "for restless and suicidal cases" is a clinical examination room, provided with every requisite for a thorough study of the patients, including clinical and laboratory instruments and apparatus of all kinds. The hydrotherapeutic and electrical apparatus for treatment are of the best. But while the means and methods of treatment are unexcelled, the most interesting features to the visiting physician are to be found in the central building. In this is a Policlinic for neuropsychic patients who come to the out-door dispensary for examination and treatment. It is needless to say that mental cases are seen and recognized here in the very earliest stages, and if hospital care is indicated it can at once be in-

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stituted by the physician-in-charge. There is a waiting room for the patients next to the examination rooms. These latter are provided with electrical apparatus and instruments for the investigation of the blood, sensory-motor conditions, the eye, etc. Here are also cephalometrical apparatus, and the instrument devised by Prof. Sommer for studying the reflexes, and called by him the "reflex-multiplicator."

Adjacent to the Policlinic is the scientific library which is in every way adequate to the work in hand, and on the same ground floor is the suite of pathological laboratories in which every facility for autopsy and microscopical work is enjoyed. All of the rooms just described occupy the first floor of the right wing of the central building. On the same floor in the left wing are the administration offices and apartments for assistant physicians. The entire second floor of the administration building, including both wings, is given up to scientific purposes. The hallway is a museum of pictures, diagrams and plans relating to practical psychiatry, and contains also cases of valuable photographs and a large collection of skulls. The lecture-room or amphitheater has seats and desks for fifty students. The walls are covered with anatomical charts of the nervous system, and there are cabinets for microscopic specimens, photographic negatives and phonograph cylinders. There is a Zeis apparatus for the projection of microscopic sections on a screen and also for use in microphotography. The amphitheater is in the middle of the building, and to the left are the mechanical workshop, where all sorts of apparatus for the various laboratories can be manufactured, and the psychophysical laboratory. The latter consists of three rooms fully equipped with the electrical apparatus required for this difficult work, the complex instruments for a study of reactions, a Hipp chromoscope, and, in fact, a full assortment of all the mechanical devices needed for the investigation of the relations between mind and body. To the right of the auditorium are the laboratories for microscopical work and for physiological and pathological chemistry, and a room for photographic work.

I will not occupy your time with further details. My object in describing this institution as fully as I have done is merely to place before the profession a picture of a model psychopathic hospital to show the need of such addition to our teaching foundations and to aid in hastening the coming of that day when the acutely insane shall have equal advantages with patients suffering from other maladies for early diagnosis, immediate attention, and skilled treatment.

Yellow Fever.—Eighteen new cases of yellow fever and three deaths were reported at Havana during the first week in January. This indicates a decided increase in the number of cases, but diminution in mortality. The health authorities have decided to renovate again the infected districts.

DIURETICS IN RENAL DROPSY: THEIR INDICATIONS AND USES.

BY E. R. AXTELL, M.D.,
OF DENVER, COLORADO.

A STRIKING symptom of that peculiar complex of symptoms which we call Bright's disease is dropsy. It is a symptom that the patient usually notices and calls attention to. It is by no means present in every case of renal disease. It is usually present in acute nephritis, but we have all seen cases where it was very slight or absent. Where acute nephritis complicates pneumonia, typhoid fever or diphtheria, it is usually absent. In the form of subacute nephritis, and in that form where the kidney is large and white, dropsy is very common, being absent in only eight or ten per cent. In the interstitial form dropsy is much less common. In the early stages of the form it is generally absent, in fact almost never occurs, but later on it may appear as a result usually of cardiac failure.

Dropsy is simply a name for an accumulation of watery fluid in the lymph spaces of the subcutaneous cellular tissue and in the serous cavities of the body. This watery fluid is lymph and is derived from the capillaries. Under normal circumstances it is poured out into these spaces, but as fast as it is poured out it is taken up by the venous and lymphatic radicles. There are two essential factors necessary for the production of dropsy, and they do not seem to have an absolute relation to the condition of the kidneys. First, there must be an increase in the outflow of fluid; or, second, there must exist a failure on the part of the veins and lymphatics to take up the effused fluid.

It is not my province to enter into the physiological facts and experiments which have been made in this line. I think our present knowledge of the pathology of dropsy can be embraced in the following summary, which is modified from Saundby:

1. Dropsy is an accumulation of lymph or watery fluid in the lymph spaces of the body and serous sacs as a consequence of (*a*) defective arrangements, on account of which fluid accumulates; (*b*) changes in the blood and capillaries by which the outflow of fluid is increased.

2. Dropsy is present in most cases of acute and subacute nephritis. It is present in only about ten per cent. of the cases of uncomplicated contracted kidney. In the late stages of this disease it is more frequent, being present in twenty-five per cent.

3. In uncomplicated contracted kidney dropsy is due to heart failure; but in acute nephritis and its sequelæ it is due to more obscure causes in which a watery state of the blood is accompanied by increased permeability of the capillaries, caused possibly by the presence of an acid or other toxic substance in the blood.

This introduction is to serve for the very limited field which I have taken for this paper. In the treatment of dropsy we do not confine ourselves to diuretics—medicines which increase the

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secretion of the urine—we also use diaphoretics and hydragogue cathartics; but I am not to consider in this paper the treatment of dropsy, but simply the use of diuretics in this condition. We all use diuretics at some time or another in the treatment of dropsy. I believe much harm may come from their use unless they are judiciously chosen. Diuretics may be divided into two classes; the direct and the indirect. To the first class belong all medicines which produce an increase of diuresis by influencing the kidney tissue directly. To the second class belong all medicines which produce an increase of diuresis by augmenting the general blood-pressure. This means, of course, an action on the heart, by which its energy is increased. Diuretics of this class do not act on the kidneys. They are incapable of augmenting the flow of urine when they fail to increase the force of the heart's action. When given to a healthy man or woman they do not markedly augment the quantity of the urine, simply because the blood-pressure is generally at its maximum height. Given, however, in a case where there is insufficient heart action and a small flow of urine, they often produce copious diuresis in a short time.

We could consider in elaborate detail the question of urinary secretion, but it is not necessary in an elementary paper, as this professes to be. We know a few fundamental facts with reference to the influence of diuretics on the kidneys. Any medicine which increases the flow of urine by a direct action on the kidneys, causes a more or less active hyperemia, with increased activity on the part of the renal epithelium. Some of the direct diuretics, when given in large doses, so augment the hyperemia that they render the urine bloody and albuminous.

For practical purposes the direct diuretics are divided into two classes, the saline diuretics and the stimulant diuretics. The salines take their names from the fact that they change the reaction of the urine, rendering it less acid or even alkaline; while the irritant or stimulant diuretics, when administered in excessive doses, diminish the quantity of urne and produce symptoms which show renal irritation or inflammation. The saline diuretics are those mostly used and recommended in the dropsy of acute nephritis.

The acetate of potassium, the citrate of potassium, the bitartrate of potassium, or the salts of sodium, lithium, calcium or magnesium, are all used. It is recognized now that the salts of potassium cause a more decided diuresis than the other salts mentioned, and they are preferred when an increase in the amount of urine is demanded. The acetate, citrate and bitartrate of potassium seems to possess equal diuretic power. This is probably due to the fact that before reaching the kidney they are converted into carbonates and eliminated as such. These salts in their elimination excite the renal epithelium, producing active hyperemia with an increased flow of urine.

In renal dropsy the saline diuretics are frequently used, and apparently without discretion. They may be useful, but they may be very harmful. In the dropsy of an acute nephritis saline diuretics do harm as long as the inflammation of the kidney is the cause of the diminished secretion of the urine. An inflamed kidney should not have its epithelium stimulated to increased activity; an artificial hyperemia should not be added to acute congestion. So harmful may saline diuretics be in acute nephritis that they may hasten the appearance of uremic symptoms.

I contend that all diuretics should be withheld in acute nephritis until the acute inflammation has subsided. This means that a period of one or two weeks ought to elapse before they are given. When the inflammation has subsided and there exists a scanty flow of urine, due to the presence of tube-casts and masses of blood in the uriniferous tubules, it will do more harm if they are not removed. On the passing of more urine, the dropsy often goes away slowly and steadily. In the dropsy of chronic renal disease I have never seen the saline diuretics do much good. They may increase diuresis, but they do not lessen dropsy. Certainly in any case of chronic renal dropsy one would not be justified in using the saline diuretics for any length of time. If the damaged kidney cannot secrete water, it cannot eliminate these medicines. In this way we could do harm.

The stimulant diuretics are frequently recommended in the most careless manner for renal dropsy. Take up almost any text-book and the list of diuretics to use is very great, and this without any apparent reference to whether harm can or cannot result from their use. It is true that in many cases of dropsy we get to a place where the question is, what is next? and where one sees the great need of a drug that will make the remaining kidney tissue do its work actively. It is in such cases that we are privileged to use renal diuretics, but not until diaphoretics and hydrogogue cathartics have been tried. That is the fundamental consideration. I mention here the usual drugs recommended for this condition; it is my intention to consider each briefly: Scoparius, squill, caffeine, pilocarpine, digitalis, diuretin, sweet spirits of nitre and calomel.

Scoparius is a stimulant or irritant diuretic and occupies a high place among the active diuretics of English physicians. It is recommended for renal dropsy in several American text-books. It can be used late in any renal dropsy. It decidedly augments the urinary secretion and sometimes the action of the bowels. It is employed in the form of a decoction, containing one part in twenty. Of this concoction the dose for an adult is two ounces every three to six hours. It is frequently combined with squill.

Squill is generally conceded to be contraindicated in acute nephritis and all forms of Bright's disease. It is, however, a diuretic of some power, and is classed among the indirect diuretics, it having been shown that its diuretic action takes place in consequence of a modification of the heart's action. Late investigations have shown that toxic

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doses produce in animals no marked changes in the kidneys. Although squill is such a diuretic in renal dropsy it seems to have but little influence. I cannot, from personal experience, recommend its use in renal dropsy.

Caffeine citrate was first recommended for renal dropsy by Professor Gubler, who asserted that it was a powerful diuretic. His claim has been confirmed clinically many times. It is not to be used in acute Bright's, but can be used in chronic Bright's in doses of three grains every three to five hours. It apparently has a direct diuretic influence in addition to its cardiac action. Caffeine, when injected into the blood, affects blood-pressure but little. It causes dilatation of the renal vessels after a passing constriction and an increase in the flow of urine after a temporary diminution. It is often uncertain in its action. It will work nicely one time, and be of no service at another. It is worth a trial when other things have failed.

Pilocarpine hydrochlorate is nowhere classed as a diuretic, but some recent experiments of H. C. Wood indicate that it stimulates the kidneys. He says: "There is some clinical experience in favor of the plan of giving pilocarpine in doses of 1-10 of a grain three times a day, in order to avoid any violent action on the skin and get a decided increase of the urine."

Digitalis has, in the opinion of H. C. Wood, direct diuretic properties. He says: "The diuresis of digitalis is not simply a result of its action on the circulation, since it will sometimes appear before the circulation is sensibly affected. At the same time, it is very evident that in disease the good effect of digitalis upon the renal organs is often in large measure due to its action on the heart, but it is of value as a direct diuretic in renal dropsy both in the subacute and the chronic form, and while it frequently fails in these varieties of Bright's disease, yet it should always be tried." It may be given as fluid extract, tincture or infusion. The dose of the fluid extract is one, two or three minims every two or three hours, according to the urgency of the case or to the readiness with which the patient responds to the drug. This is always a variable factor. The tincture can be given in from ten to thirty minim doses every two or three hours. The official infusion, in doses of from one to three teaspoonfuls, is perhaps the best and most efficient form in which the drug can be administered, but it is at the same time the most trying to the stomach. Indeed, this drug in any form is apt to nauseate, and where we have this symptom present from a toxemia we are often deprived of the use of this valuable drug. Digitalin has not in my hands given me the results that I get with the infusion.

Diuretin was the name given by Dr. Christian Gram, of Copenhagen, to the salicylate of theobromine and sodium which he introduced as a substitute for caffeine. Extensive clinical experiments with the drug showed its diuretic action. It is a white powder, with a slightly bitter and disagreeable taste, and is very soluble. Its solution is very unstable and decomposes rapidly. This drug exerts its diuretic properties by a direct action on the secreting tissue of the kidneys. It acts promptly and energetically. Its effect is continued for twenty-four or thirty hours after administration. It increases both the solids and fluids of the urine. In all forms of dropsy due to renal disease, where a diuretic is demanded, diuretin can be used. There is certainly but little irritation to the renal epithelium, and very few bad results have been reported from its use. It may occasionally produce slight intestinal irritation and it has been known to cause slight delirium, but it is probable that in these cases the dosage was unnecessarily large. The best method of giving the drug is in ten to twelve grain doses, three times a day, to be increased to thirty grain doses if necessary. It is best administered in water with some aromatic essence, like essence of peppermint, to disguise its bitter taste, and always when the acidity of the stomach is at a minimum, *i. e.*, three or four hours after eating. When it fails in a case of renal dropsy, a combination of diuretin and digitalis should be tried. I have used diuretin many times in renal dropsy with scanty urine, and I have seen the urine increase from 20 ounces in twenty-four hours up to 146 ounces in the subsequent twenty-four hours. I have never noticed any change in the circulation from its use, and although I employed it for a long time in two cases of renal dropsy, yet it did not seem to increase the arterial pressure at any time. Diuretin has been used with good results in the renal dropsies of children, and R. Demme says that in the dropsy of scarlatinal nephritis, following the first stage of the disease, diuretin is more efficacious than any other diuretic. The dose for children from two to five years old is from three to fifteen grains daily; from six to ten years old, fifteen to forty-five grains daily. In patients whose renal epithelium has undergone too extensive degeneration, the drug may fail.

Spiritus aetheris nitrosi has a reputation as a diuretic in renal dropsy, but it is ill-founded, for it is not sufficiently powerful, even in large doses, to make it worthy of reliance.

Calomel long ago was observed to have a diuretic action, but this seems to have been forgotten during the past twenty years. Its consideration as a diuretic is most interesting, but a long line of clinical observations show that in renal dropsy is has but little power. In cardiac dropsy calomel produces marked diuresis and helps greatly; but in renal dropsy it acts very feebly or not at all.

There have been several new remedies proposed lately for renal dropsy, of which fuchsin and apocynum cannabinum are the most promising, but I have not had any experience with either, and cannot report on their value. There are a great many remedies which stimulate the kidneys and have in a limited way a diuretic action, but most of them are too irritant to be used in dis-

eased kidneys and are too feeble in action to be of any value. We can dismiss most of them by putting them in this list: Pipsissewa, copiaba, cubeba, buchu, uva ursi, pareira, taraxacum and cantharis, juniperus and terebinthina.

MEDICAL PROGRESS.

Lung Reflex.—The rather strange and interesting phenomenon, known as the lung reflex, or acute dilatation of the pulmonary alveoli in response to external stimuli, is described and exemplified by A. Abrams (*N. Y. Med. Jour.*, Jan., 13, 1900). Moccucci was the first to suggest this condition when he found that the splenic dulness was diminished by the application of the ether spray. It was afterward found that cardiac dulness could be similarly diminished and in both cases the condition was found to be due to the dilatation of the underlying lung. This was proven by the use of the fluoroscope and by the aid of the conventional physical signs. Mechanical, thermal, chemical or electrical stimuli act similarly and affect only the lung tissue immediately beneath. The practical lessons to be derived are the methods of treatment which may be used in cases of atelectasis and the aid which may be offered in determining whether a local dulness is due to consolidation or to the collapse of the alveoli. In cases of bronchopneumonia of children it is claimed that dulness is often due to areas of atelectasis and these may be distinguished from true consolidation by the application of external stimuli, such as a vigorous rubbing with the hand, but if any lung reflex is obtained it persists for a few moments only and the change in physical signs will be of short duration. Experiments with several kinds of stimuli showed that hot poultices gave unequivocal demonstration of the fact that they were best adapted to counteracting lung collapse and hence especially indicated in bronchopneumonia.

Diplococci a Cause of Erysipelas.—The streptococcus described by Fehleisen has been considered to be the cause of erysipelas. In eight cases of erysipelas G. E. Pfahler (*Phila. Med. Jour.*, Jan. 13, 1900) has found a diplococcus which he thinks may be the cause of the disease. Cover-glass preparations were made with the pus from the pustules of four cases and from the blood of the affected part in all eight cases, and all showed the same diplococci in great numbers. Inoculations were made from each case upon glycerine-agar, blood-serum, and bouillon. In all the tubes pure cultures of this diplococcus only were found. In one case, in which there was a large collection of pus under the scalp, cover-glass preparations showed both streptococci and diplococci. The presence of streptococci in this case, the writer thinks, was due to a secondary infection. The diplococcus, usually encapsulated, is found both inside and outside the leucocytes. It stains easily with aniline gentian-violet, and carbol-fuchsin, but not so well with Löfler's alkaline solution of methylene-blue, with a saturated aqueous solution of methylene-blue, or with Gabbet's solution of methyl-blue.

Growth of Hair.—The popular belief that clipping the hair makes it grow faster, is, according to J. Pohl, not founded on fact. This observer has made accurate measurements of the rate of growth of many hairs under a variety of conditions, found that, if a portion of the head is shaved, the hair will grow for a month more slowly than the hairs of the unshaved portion. After the first month their rate of growth is about the same. He also found that the shaved hairs grew unevenly, and further study showed him that the hairs on the head and elsewhere are arranged in groups of two, three or four, the members of a group being closely related anatomically. One of them outgrows the other for a time, and then its pace slackens while a younger one presses into first place, to be followed by a third, etc. In other words, each hair has a life history and its rate of growth varies at different times. It is most rapid during the middle period of its life. When old, a hair falls out and a young one grows up in its place. As the hairs in a hair-group grow old and fall out successively, baldness is avoided. The average maximum length of the hair of the head is given as from two to three and one-half feet and the average life from two to six years. The growth per month varies from one-half of an inch to an inch or more. (*Dermatologisches Centralblatt*, Dec., 1899).

Genito-Urinary Tuberculosis.—W. Cheyne discusses tuberculosis of the genito-urinary tract (*Lancet*, Dec. 30, 1899). Epididymectomy is an operation worthy of more consideration than it receives. It is contraindicated when the whole of the body of the testicle is diseased; when there is a deposit in the center of the testicle; when there are advanced lesions of the seminal vesicles and prostate, especially with suppuration; when the urinary system is invaded, or when the patient has phthisis in an advanced form. It has a distinct advantage over castration which has a bad mental effect upon many patients, especially upon men of middle age. One can never be sure of getting beyond the disease. In fact there is a strong probability that the other testicle will have to be removed at a later date. Epididymectomy has no such unpleasant mental effect, even if performed on both sides. The technic of the operation is described by Cheyne as follows: The operator stands on the affected side and, turning the testicle inward, makes an incision from the external abdominal ring to the lower end of the testicle. The incision should avoid a sinus. The cord and epididymis are then exposed and the latter, beginning with the globus minor, is separated from the testicle. On the inner side the dissection should be blunt. On the others the tunica albuginea may be incised. If there are diseased spots in the testicle they may be removed. The vas is

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followed up through the external ring and then pulled upon and divided as high up as possible. Bleeding should be carefully stopped, and if oozing persists a drain should be left in the scrotum for a day.

The chief end of operation in tuberculosis of the prostate is to drain an abscess, either before or after it has broken into the urethra or rectum. A transverse perineal incision, convex anteriorly, is the best. The urethra and rectum are separated and the levator ani muscle divided. The abscess is then reached and thoroughly emptied, and the wound stuffed with gauze. A catheter should be left in the bladder for ten days. If the abscess has ruptured into the rectum the perineal operation is likely to result in a rectal fistula. It is better, therefore, to dilate the anus and enlarge the opening in the wall of the rectum in order to evacute the pus and clear out the tubercular material by this route.

Ganglia in Tendons.—It has heretofore been considered that a ganglion is an outgrowth from either a joint-capsule or from a tendon-sheath. C. Hofmann (*Central. für Chir.*, Dec. 16, 1899) in the extirpation of a tumor found a ganglion which began in the tendon of the peroneus tertius muscle and had grown to the size of a plum. It contained the fluid ordinarily found in ganglia. It is not difficult to explain this site of the ganglion if one accepts the theory of Ledderhose and others that a ganglion is a true new growth whose slimy contents result from the degeneration of its tissue. However, investigations have not been pushed sufficiently far to enable one to say with certainty that this theory is correct. Possibly in the case referred to traumatism may have had something to do with the origin of the ganglion. In support of the traumatic theory may be mentioned a case reported by Thorn (*Arb. aus der Chir. Klinik der K. Universität, Berlin,* Pt. 14, p. 46), in which a flexor tendon of the forearm of a man aged twenty years was partially ruptured during gymnastic exercises. The tendon underwent reparative changes similar to those which occur after suture of a divided tendon. The processes of repair were also accompanied by degenerative processes and the formation of a cyst whose contents resembled those of an ordinary ganglion.

Wounds of Heart.—Although wounds of the human heart have rarely been sutured, a few successful attempts of this sort have been recorded and interest in the subject is rapidly growing. C. A. Elsberg, who performed a series of experiments upon forty rabbits and dogs in order to determine the outcome of sutured wounds and unsutured wounds of the heart, reports his results in an interesting paper published in the *Beiträge zur Klinschen Chirurgie* (vol. 25, pp. 426-456), and also in the *Journal of Experimental Medicine* (Sept.-Nov., 1899). He found that minute wounds such as those made by the puncture of a needle to not allow the escape of blood from the ventricle while a similar wound in the auricle bleeds freely for a time, but bleeding soon ceases spontaneously. Even if a needle is passed entirely through the heart so as to penetrate both the right and left cavities, bleeding is never severe. The same is true of wounds made with a small scalpel. A wound made during systole bleeds more freely than one made with the same instrument during diastole, for the obvious reason that during the relaxation of the heart from systole to diastole the wound increases in size. Perpendicular wounds bleed more freely than those made diagonally through the heart wall. Wounds of the right heart bleed more freely than those of the left, on account of the more rapid coagulation of the blood in the left heart. Hemorrhage is almost entirely systolic. A wound from two to three millimeters in length in the right ventricle of a rabbit proves fatal unless it is sutured. A much smaller wound in the right auricle will produce fatal hemorrhage. Since a wound which does not penetrate bleeds less than one which does, sutures should not be passed into the cavity of the heart. The visceral pericardium is the toughest of the heart walls and is best adapted to suture; it also bleeds very little. In the larger animals the easiest plan is to confine the suture to the pericardial layer. The only exception to this method of suture is a condition in which the wound is so large that its edges cannot be properly approximated by a suture which does not extend below the pericardium. The heart-beat is only slightly affected by the insertion and tying of sutures, either continuous or interrupted. In certain cases in which the wound is near the apex it is possible to pass a ligature around the heart so that the suture can be carried out without troublesome bleeding, as in a regular Esmarch operation. After the suture is complete the ligature may be removed and the whole heart will then resume its beating as if nothing had happened. The experimenter even found it possible to apply a ligature and to amputate nearly the whole lower half of the ventricle, closing the wound by Lembert sutures. Animals so operated upon recovered. Histological investigation of the repair of wounds showed that in every instance there was a degeneration of the muscle fiber along the stitches, which was replaced by connective tissue. The experiments on animals, together with the limited clinical experience upon man heretofore recorded, indicate that operations on the human heart are not difficult to carry out. On account of the degeneration caused by the stitches, no more than are absolutely necessary should be inserted. Experience and experiments both prove that wounds of considerable size will heal without suture. As far as possible all sutures should be tied in diastole.

Rupture of Puerperal Uterus.—It is said that rupture of the uterus occurs about once in three thousand deliveries. It may occur before or during labor. The causes are well known. J. F. W. Ross (*Am. Jour. of Obstet.*, Dec., 1899)

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says that version after the liquo amnii has escaped is the cause in fifty per cent. of the cases. It is not decided whether rupture occurs more frequently in primiparæ or multiparæ. The uterus seems more apt to tear after it is tired out by prolonged contraction. The cervix is the part most frequently ruptured. Ross divides cases of rupture of the uterus into four groups: (1) Those that are beyond hope from the beginning; (2) those which have passed beyond the operable stage and are ill with septicemia and peritonitis; (3) those in whom the rupture is not immediately fatal and who are in good condition for operation; and (4) those in which the rupture is never recognized, but in which a septic condition prevails without known cause. The writer reports two cases in which he was consultant. The first patient was four months pregnant, had hemorrhage, and was evidently threatened with a miscarriage. The physician in charge emptied the uterus. The patient complained of severe abdominal pain and vomited, the pulse became rapid, and the temperature rose. On examination two fingers passed through a rent on the left side of the uterus into the abdominal cavity. A foul-smelling, bloody discharge indicated washing out and drainage from below. This was done for several weeks and the patient slowly recovered. The writer has previously reported a similar case, in which the rupture was caused by the hand of a physician. The second patient had been in labor five hours when the physician arrived. She was a multipara. Fetal movements had been absent for a week. The patient was delivered by forceps of a dead child, because the uterine contractions had ceased and severe abdominal pains suddenly appeared. The pulse increased and temperature rose. On examination the fingers passed through a tear in the cervix and the vaginal vault into the abdominal cavity. Douching with hot water and drainage were employed, and after weeks, during which the patient had all the symptoms of a severe septicemia, she gradually improved and recovered. This case was complicated by a double phlebitis. No treatment will avail in the first class of cases. In the second class, cases like the two reported above, washing out and drainage from below are indicated. In the third class, when the patient is not moribund and the condition is recognized, a thorough inspection and treatment through an abdominal incision is demanded. Ross does not think it necessary to suture the rent in the uterus. In the fourth class, in which there is a septic condition without known cause, thorough exploration of the uterus with the finger is advocated.

Dysentery at Fiji.—The interest in tropical diseases is widening with this country's territorial expansion. C. W. Hirsch (*Edinburgh Med. Journ.*, Jan., 1900) contributes some brief remarks on dysentery as it occurs in Fiji. It is there endemic, being most prevalent in May, June and July, or the season of dry weather and scanty water-supply. While under some circumstances the mortality is high, 40 per cent., the average death-rate, however, is 7 per cent. The symptoms are frequently preceded by constipation and tormina ventris accompanied by tenesmus is characteristic. The greater number of cases recover in from seven to fifteen days. The treatment that seemed to answer best was perfect rest in bed, milk diet, if the stomach was able to retain it; otherwise raw meat-juice, barley, rice-water, sago, arrowroot or some of the prepared foods. If there is much pain, hot turpentine stupes are of service. The medicinal treatment is best begun with castor oil, ℥i., tr. opii., m. 10-15. Ipecac, preferably in keratin capsules, should be administered three times a day in doses of from 15-20 grains.

Wire for Aneurisms.—J. C. Reeve (*Annals of Surgery*, Dec., 1899), cites an interesting case of aneurism of the abdominal aorta treated by him with wire and galvanism. He once used silver-plated, soft copper wire, .016 inch in diameter, introducing seven feet of it through a small needle before obstruction occurred. The positive galvanic pole was then attached and the current gradually run up to 80 milliamperes. This strength of current was continued fifty minutes, when syncope threatened and the treatment was stopped. The tumor had become firm and pulsation had ceased. The wire was left *in situ*. The patient died in twenty-four hours. At the autopsy one end of the wire was found to have traversed the aorta up to the valves, where it had caused an ecchymotic spot. This fact led to the inquiry as to the proper wire for such cases. A bladder was hardened to represent an aneurismal sac, with an aperture corresponding to the arterial communication, and many varieties and sizes of wire were introduced. The soft, untempered wires could not be introduced in sufficient amount because of kinking at the needle. In order to keep the tempered wires from escaping into the vessel from the sac, it was necessary to have them coiled before introduction into the sac. They then tended to coil again within it and not to escape. The requirements were best fulfilled by either a silver or gold wire, .0085 inches in diameter, of sufficient temper to retain its coil. Such wire will not break during its extraction.

Phenylhydrazin Test for Sugar.—This test has been heralded far and wide as the only certain one for the detection of glucose in diabetic urine. Yet, in recent years a number of investigators, following Von Jaksch's experiments, find that he was not warranted in assuming so broad a statement as to its efficacy for the detection of glucose. They aver that they could obtain the neeedle-like crystals of the phenylglucosazon in urine that was practically free from sugar and that, therefore, this test is not applicable in urinalysis. This uncertainty stimulated further researches on the part of Paul Meyer, assistant to

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Professor von Leyden in Berlin (*Berlin klin. Wochen.*, Jan. 1, 1900) who directed his experiments chiefly to determining the part played by glycosuric acid in the formation of the characteristic crystals. He states that in no case in which he used normal urine could he obtain the crystals or anything else, in fact, that might be mistaken for them. However, he also states that as glycosuric acid never occurs free in urine, and as its combinations and compounds as such never enter into combination with phenylhydrazin, it might be assumed that no phenylhydrazin compound found in the urine could be formed partly by glycosuric acid. And yet it can be readily imagined that the glycosurates might be decomposed in the process of heating and then unite with the phenylhydrazin to give the needle-like crystals. The author consequently administered drugs that would form weak compounds with glycosuric acid, which compounds would readily decompose on heating, giving off free glycosuric acid. Such drugs he found to be naphthol, thymol and menthol. In the resulting urine he found that the thymol and naphtholglycosuric acids never entered into combination with phenylhydrazin, while with mentholglycosuric acid the test indicated quite a different result. After five grams of menthol had been taken internally, the urine was examined and found: (1) to reduce Fehling solution, (2) to polarize to the left, and (3) to give beautiful phenylglucosazon crystals with phenylhydrazin; although the day before taking the drug the urine was perfectly negative in all these respects. So it is clearly seen that grave errors in diagnosis might still be made if this much vaunted test were depended on entirely. Yet the author says that if there be no positive fermentation test then sugar is not present and with this as the keynote the phenylhydrazin test should be tried. In a very rare case he has seen the administration of chloral hydrate (forty-five grains) followed by a positive reaction with phenylhydrazin when no sugar was present. In spite of all these facts, Meyer declares that the realm of usefulness of the phenylhydrazin test is not appreciably narrowed if one will only carefully exclude the disturbing factors, such as the previous ingestion of menthol or chloral. The statement nevertheless that "every urine which reacts with phenylhydrazin to produce phenylglucosazon contains sugar," must certainly be modified so as to be somewhat less general in character.

Postural Treatment in Tabes.—A. H. Lindström (*Boston Med. and Surg. Jour.*, Jan. 11, 1900) reports a case of tabes in which the pains were successfully treated by mechanical means alone. The patient, a man forty years old, had had pains for ten years, but the other tabetic symptoms did not manifest themselves until during the last year. He had been unwilling to take drugs for the pain, lest he should contract a drug habit. But the pains had been so severe that he finally resorted to whiskey freely during an attack. There was no doubt of the diagnosis. His family and personal history were good—no syphilis or alcoholism. He had, however, fallen about thirteen years ago and injured his back. At the time of beginning treatment the patient had been unable to sleep for ten days because of the severity of the pains. Still he would take no drugs although frantic with pain. Lindström decided to try stretching of the sciatic by posture, namely, by flexion of the thigh and extension of the leg and foot. Each sciatic nerve was kept in a state of tension for two minutes at the first treatment. There was numbness of the feet and slight distress in the popliteal space following the treatment, but freedom from pain for several hours. On attempting to walk, the ataxia had apparently increased, but this was probably due to the numbness of the feet, since the gait improved as the numbness wore off. The patient was able to get several hours' sound sleep. The following day each sciatic was kept in tension for three minutes. The numbness of the feet and the apparent increase of ataxia immediately followed the treatment as before, but were perhaps more marked. The absence of pain was more complete. The patient slept well all night long. A third treatment was given, two minutes to each sciatic. No pains having appeared, the next stretching was done two days later, and a fifth, and last, treatment forty-eight hours after that. During all this time the patient had been practically free from pain. Since these treatments he has had only a few light attacks of pain, usually caused by injudicious physical exercise. The general treatment of the case was tonic, eliminative, and hygienic, with the addition of systematic co-ordination exercise. In the early stages of tabes the hip-joint is extremely flexible. Lindström was able, after flexing the thigh upon the abdomen, to bring the patient's leg and foot on the level with his face. Care must be taken, in doing this, not to use undue force, or any sudden pressure. Subluxation at the hip-joint must also be guarded against.

Gall-Stone Crepitus.—All clinicians of wide experience have met cases in which the features of gall-stones in the common duct or gall-bladder as the cause of a chronic jaundice or more indefinite general symptoms have been too incomplete for an assured diagnosis. J. M. Anders (*Internat. Med. Mag.*, Dec. 1899) has reported a number of cases in which this physical sign was made out and proved to be of great diagnostic value. The crepitus may be obtained by palpating with the finger-tips dipped gently but deeply in the abdominal wall just below the fundus of the gall-bladder and then drawn upward over the organ as though making an attempt to roll the fundus upward and forward. Deep inspiration is helpful and the lactile sense of the palpating fingers may be increased by pressing on their dorsal surfaces with the disengaged hand, thus relaxing the muscles of the examining hand. Auscultation is sometimes successful when palpation fails and a

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combination of the two has led to the detection of a friction-sound when other methods had been tried in vain. In attempting the latter mode of examination, the stethoscope should be placed just below the costal arch, in order to allow space for the palpating right hand over the fundus of the gall-bladder.

Gall-Stones.—H. McGuire (*Georgia Jour. of Med. and Surg.* Dec., 1899) says that gall-stones are most common in middle-aged women, especially such as lace, overeat and lead sedentary lives. The characteristic symptoms, pain, swelling of gall-bladder and jaundice, are rarely all present in one case. The pain is paroxysmal, colicky, radiating from the gall-bladder, and is due to spasmodic contraction of the gall-bladder in the attempt to overcome the obstruction in the ducts. This obstruction is due to inflammation of the duct and not to the presence of a stone in the duct, for colic is rarely followed by the passage of a stone, and discharge of a stone is frequently not preceded by colic. Tenderness is present only with local peritonitis. The distention of the gall-bladder is more dependent on the elasticity of the walls of that viscus than upon the degree and site of the obstruction. The walls may be thick and contracted, enclosing no fluid; or they may be thin and distended with mucus mixed with bile. In stone of the cystic duct the viscus is sometimes empty, but more often it is filled with pure mucus. In stone of the common duct it is filled with bile. In either case, after infection, its contents become purulent. Jaundice is the symptom most misunderstood. At least half of the patients with gall-stones never have jaundice, and half of the cases of persistent jaundice are not due to gall-stones. If the stone is in the gall-bladder there is usually no jaundice or but a slight and fleeting discoloration. If the stone is in the cystic duct it causes jaundice by pressure on the common duct. If the stone is in the common duct jaundice varies with the completeness of obstruction. The Roentgen rays give no diagnostic assistance since the stones are chiefly cholesterin (*i. e.*, fat). The question of operation depends on the frequency and intensity of attacks and their effect on the patient's mental and physical condition. When there is constant pain, perceptible distension, persistent jaundice, or threatening suppuration, immediate operation is desirable. The danger of the operation is about the same as that of appendectomy. Of the various operations, drainage of the gall-bladder through the abdominal wound has the lowest mortality, and is the one to be chosen in the majority of cases. The "ideal operation" involving closure of the gall-bladder and the abdominal wound is undesirable except in cases in which the walls of the viscus are healthy and no adhesions exist. After opening either of the ducts, tension on the closing sutures should be avoided and physiological rest for repair given by draining the gall-bladder after suturing it in the abdominal wound.

Gonorrhea in Women.—The chief seat of gonorrhea in women is undoubtedly the urethra. So long as the infection exists in this locality, albeit that all the surrounding parts have responded to treatment, the danger still lurks for the unwary. G. E. Shoemaker (*Thera. Gaz.*, Dec. 1899) considers this specific disease in women with special reference to the urethal infection. The first point in the therapy upon which he insists strongly is rest in bed. Of course, the general instructions regarding cleanliness of the vulva, hands, and the immediate destruction of soiled dressings are insisted upon. There should be frequent mopping of the parts with weak carbolic acid, boric acid, creoline or permanganate solution. Three or four times daily the same solution may be used in a copious vaginal douche. The labia are to be separated by a thin layer of lint or cotton saturated with a solution of lead and opium. Plenty of water should be drunk and salol or boric acid administered for the purposes of diluting the urine and rendering it aseptic, at the same time allaying bladder and urethral irritation. As soon as the tenderness has become lessened sufficiently to allow the use of instrumentation local treatment must be adopted. Especially important is this in the urethra. Injections of boric acid may or may not be used and should be followed by suppositories of ichthyol or iodoform inserted into the canal. A mixture of ichthyol and glycerine, 1-5 or 1-10, applied with applicator, is to be recommended. Skene's treatment of the urethritis is advised, *viz.*, two or three times daily this canal is washed out with a fluted reflex catheter, followed by the introduction of suppository of iodoform or of bismuth subnitrate in cocoa butter. When the disease is chronic, direct applications of nitrate of silver, 1 to 5 per cent., may be applied to the reddened and inflamed patches which are chiefly found at either extremity of the urethra. If injections are practised, care should be exercised not to use too much fluid at one time. The two tubular glands along the floor of the urethra sometimes do not respond favorably to nitrate of silver. In that case they must be slit up. Treatment must be carried on until the gonococcus can no longer be found in the discharges. If recurrent abscesses form in the vulvovaginal glands the best treatment is to dissect them out. After the cervix and urethra have been treated and ichthyol and glycerine applied, a light vaginal pack of borated or iodoform gauze should be inserted.

Fractures of the Leg.—W. L. Estes (*Internat. Jour. Surg.*, Jan., 1900) advises the use of plaster dressing for fractures of the tibia if proper apposition is easily maintained. In oblique fractures with constant tendency to overriding he advocates local fixation if the conditions favor aseptic work. His method consists in incision down to the site of fracture, removal of shreds of tissue, clots and detritus, careful apposition of the fragments, and their fixation by a nickel-plated steel plate, extending across the line of fracture and held in position by ivory pegs. The wound

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is closed and covered with sterile dressings and an outside plaster bandage. After three weeks the dressings are removed and if union is fairly firm the fixation plate is taken out, the wound closed and another plaster dressing applied. This is to be left on about three weeks more. When a patient wearing a plaster-cast is allowed to use crutches, it is very important that he should wear a raised shoe on the sound foot. In most cases splints are discarded in five weeks, and massage, daily passive joint movements and gradual active movements are instituted. Ambulant treatment is applicable only to transverse fractures or oblique fractures, with no tendency to displacement of the fragments.

Local Hot-Air Treatment.—The fact that the body can stand high degrees of local temperature much better in perfectly dry air induced E. Lindemann (*Klin. ther. Woch.*, Dec. 24, 1899) to construct an apparatus heated with electricity which, he claims, lacks all the disadvantages of the older contrivances warmed by gas or alcohol. General hot baths cause a short contraction followed by a prolonged dilatation of the vessels of the skin; the heart's energy is reduced; there is diminished diuresis, increased sweat and metabolism. Local baths, while they affect the skin similarly, do not disturb circulation so generally; thus there is little danger in using them in heart disease. Their chief action depends on the heat, a high degree of which will cause local perspiration with increased absorption of transudates and exudates in the joint treated, resulting in less pain and greater mobility. These baths are especially valuable in arthritis deformans, gout, rheumatism, old dislocations and gonorrheal joints.

Cerebral Rheumatism.—There are cases of acute articular rheumatism which are complicated by a set of cerebral symptoms so severe and marked as to give their characteristic stamp to the course of the disease. The term cerebral rheumatism is applied to such cases. High temperature in almost any acute disease may give rise to marked cerebral symptoms—headache, restlessness, sleeplessness, stupor, delirium, or convulsions. Some cases of acute articular rheumatism are accompanied by very high temperature and marked cerebral disturbance, such as we should expect from our knowledge of the effect of high fever upon the brain. Therefore, the term cerebral rheumatism usually brings to the mind the thought of hyperpyrexia and its attendant cerebral disturbance. P. Morgan (*Phila. Med. Jour.*, Jan. 13, 1900) cites a number of writers who seem to think that cerebral rheumatism is due to the effects of a high fever on the brain, and also two who think there must be some other cause for the cerebral disturbance. He believes that cerebral rheumatism and hyperpyrexia are two distinct and separate complications of acute articular rheumatism, that the symptoms of cerebral rheumatism are not dependent upon high fever, although it may be present, that hyperpyrexia may present symptoms very similar to those of cerebral rheumatism, and that true cerebral rheumatism is due to a toxic agent in the blood, which acts on the brain and its membranes, producing the characteristic symptoms. Predisposition plays an important part in the production of cerebral rheumatism. The writer cites a case in support of the opinion that true cerebral rheumatism is not primarily due to the effects of hyperpyrexia and that it may occur without high fever, in which the temperature only once went above 102° F. after the cerebral complications appeared. As to the nature of the toxic agent causing cerebral rheumatism, investigations and conclusions of numerous writers here cited tend to show that the disease is an infectious process caused by the presence and growth in the body of the ordinary pus cocci. If this theory be proved correct, all the symptoms of the disease will be easily explained as due to the toxic effects of products elaborated by the pathogenic bacteria. According to Pepper, cerebral rheumatism occurs in about three to four per cent. of all cases of rheumatic fever. In the majority of cases of cerebral rheumatism no pathologic changes are found in the brain or membranes after death. Occasionally there are changes found. When this is the case there is always a strong suspicion that a meningitis complicated the articular rheumatism, and not a true cerebral rheumatism. The symptoms of the disease usually begin with mild nocturnal delirium, headache, disturbance of vision, and subsultus tendinum. Sometimes there is profuse perspiration and vertigo. As the disease progresses, the most prominent symptoms are cerebral excitement, great restlessness deepening at times into convulsions, and coma. Coma is rare, except in the last stage of fatal cases. The delirium is generally a quiet, talkative kind, with hallucinations, but sometimes is noisy and violent. The hallucinations are usually of space and time and general surroundings. Distrust and ideas of persecution may be present. There may be disturbances of the special senses with the characteristic symptoms. The motor portion of the brain is affected and there is restlessness, tremors, choreic jactitation, and even convulsions. The diagnosis is usually easy, as the above symptoms are characteristic. Care must be taken not to mistake the symptoms due to large doses of the salicylates for those of cerebral rheumatism, as they very closely resemble each other. Two cases are reported showing the symptom-picture due to large doses of salicylates. The prognosis in cerebral rheumatism is bad. In 107 cases reported there were 57 deaths and 50 recoveries. The treatment is wholly symptomatic. The salicylates appear to have no effect upon the condition.

Tetanus in Cuba.—General Wilson, the military governor of Matanzas and Santa Clara, Cuba, says that tetanus is universal in Cuba. A wound in the foot of human beings or of an animal is almost sure to result in lock-jaw.

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SATURDAY, JANUARY 20, 1900.

THE PRETUBERCULAR STAGE OF CONSUMPTION.

IT has always been considered the great desideratum of pulmonary diagnosis to be able to recognize the invasion of tuberculosis before actual caseation and the formation of tubercular nodules have taken place. From the modern standpoint of the curability of consumption in its incipient stages, it is more imperative than ever that this preliminary pathologic condition should be diagnosticated. The possibility of doing so seems now quite within the physician's grasp. Certain signs in the nervous system occur early in the affection, before any other symptoms are noticeable, and give at least a very suggestive hint of the presence of the disease.

We called attention some time ago to the fact that the varying pathologic conditions due to interference with the vasomotor system at the ends of the extremities had been pointed out as occurring in certain cases as a preliminary to the development of tuberculosis. This whole class of diseases, from the mildest erythromelagia to mutilating Raynaud's disease, presents a picture of disturbance with peripheral circulation which, when it affects the periphery of the pulmonary circulation, provides ideal conditions for the lodgment and culture of tubercle bacilli.

The toxins of the tubercle bacillus possess the special power of acting upon the capillary circulation and of producing disturbance of such functions as are usually considered under the control of the sympathetic system. A slight hectic flush not due to fever, long before any physical signs of the disease is demonstrable, is in so-called consumptive families the prophetic mark of the next victim to be attacked. A pronounced tendency to perspire easily is another characteristic of the pretubercular stage of the disease. Dr. Harrington of Lowell, Mass. (*Boston Med. and Surg. Jour.*, Dec. 7, 1899) calls attention to an early sign of tuberculosis, which consists of widely dilated pupils. This is, of course, another region which is innervated by the sympathetic, and although the symptom is one that occurs in many conditions, notably in neurasthenia, it has its value as a confirmatory sign of beginning invasion of the tubercle. It has long been noted that patients with incipient tuberculosis often have capricious appetites and are liable to gastric symptoms, alternating with diarrhea. These symptoms have been attributed by good authorities to irritation of the vagi. In these conditions, too, the sympathetic plays an important rôle. The "intestinal blush" which is supposed to account for the looseness of the bowels incident to intense excitement and emotion will be remembered and will serve to show the source of these disorders. In a word, very early in the development of the tubercle bacillus in the human body, certainly before any breaking down of tissue has begun, an absorption of toxic materials in very slight amounts occurs. This affects only the most delicate nervous mechanisms in the body, *viz.*, those controlled mainly by the sympathetic system. The series of symptoms thus produced cannot fail to be of service to the accurate diagnostician in detecting very early stages of tuberculosis. Early detection with open-air treatment, regulation of life, and liberal, carefully selected diet, means in our day absolute cure, made permanent under favorable conditions.

FADS IN THE STUDY OF EPILEPSY.

THE very obscurity in which the subject of epilepsy and kindred functional neuroses lies renders them objects of vague wonder and speculation. The true etiologic pathology of such dis-

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eases is practically hidden and unknown, and with our present means of investigation it is liable to remain so for some time.

The currently accepted etiology of epilepsy is that a more or less pronounced congenital predisposition exists in 85 per cent. of all cases of epilepsy (Gowers). Upon this predisposition a mild or severe excitant is superimposed at the inauguration of the disease. The relative equation between the predisposition and the excitant is left, however, to the individual clinician's judgment.

One of the greatest problems in epilepsy today is the solution of the hereditary instability of the cerebral cortex. As has been frequently pointed out, such studies must largely rest for ultimate solution upon pathologic chemistry, experimental physiology, and physiologic psychology; the latter method is still practically untried. If psychopathic hospitals are to be established, clinics embracing these lines of work should be given their respective places in the scientific investigation of mental and nervous diseases.

In connection with the etiologic pathology of epilepsy, it is interesting to note the recent aberrant forms or fads in its study. For some time the fashion has been to study epilepsy in its extraneural origin, a line of investigation mined to its utmost in years past. As a result of the revival of the study, we have the autotoxists and reflex neurologists; those tampering with the unbalanced eye muscles, the elusive ovary, and the secretive ductless glands. Dr. Ohlmacher is among those most prominently engaged in the last kind of investigation. In Volume I., combining Numbers 2 and 3 of the 1899 issue of the "Bulletin of the Ohio State Hospital for Epileptics," Dr. Ohlmacher has revealed to us that a lymphatic hyperplasia is the real basis of idiopathic epilepsy. In fact he contends that idiopathic epilepsy should be called *lymphatic epilepsy,* and status epilepticus, *status thymicus.* The author naïvely suggests when the lymphatic structure is found atrophic in epileptics that hyperplasia was *once* prominent. In regard to the completeness of evisceration of Dr. Ohlmacher's post-mortems, the neuropathologist's envy is largely removed by the bitter experience that the collected specimens of to-day, in the light of an ever-changing preservative, may be all declared useless to-morrow.

The very meager clinical data which Dr. Ohlmacher's studies show is nowhere more appallingly in evidence than in the twenty lines of history which are devoted to the complete presentations of the "status" case; the fever curve is not even demonstrated, which is the absolute essential of status epilepticus. On the whole, the overtrained thymic acuteness of Dr. Ohlmacher's investigations will unfavorably prejudice many seekers after truth. In striking contrast to this author's pathologic explanations of epilepsy on the incomplete study of a few cases, stands the monumental work on this same subject by the illustrious Bourneville, who, after the investigation of hundreds of autopsies in the disease, covering a period of continuous research work of more than twenty years, is still utterly unable to formulate even a plausible theory of epilepsy.

Without attempting to be overcritical of scientific work, we cannot too heartily condemn pseudo-science, or the fad study of any disease. This is signally true in the study of epilepsy, where already such work has been done to great excess.

THE RULES OF THE GAME OF BULLETS.

THE maxim that "all is fair in love and war" is no longer the code of lovers or of soldiers. The rape of the Sabines, or Lochinvar's daring escapade is praised only in the light of the then existing status of woman. As in love, so in war, sentiments have changed. The torture of prisoners, the use of poisoned missiles, the betrayal of the enemy under a white flag—these things have all been crossed from the code of the fighting man. There has been a growing sense of the sacredness of human life, in both the military and civil forces of the world, and a constant struggle has been going on between the desire to save life and the desire to kill. This explains certain grimly humorous inconsistencies in the game of bullets.

In order to carry long distances, bullets are made long and slim, with a conical point, steel or a composition equally hard being the material employed. As a bullet needs weight, it is usually made filled with lead. Such is the well-known Mauser bullet. Such a missile destroys a track through the body not much wider than its own diameter. Its capacity for destruction in this form is scarcely worth mentioning. File the steel from its tip, so as barely to expose the lead core, and when the bullet strikes it spreads and plows an ever-widening path through the body. Its track of destruction is then a slender cone, and the wound of exit is four or five times as wide as that of entrance. This bullet is called Mark II.

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If the lead core projects a fraction of an inch from the steel mantle, it is flattened as soon as it strikes the body. Driven through bones and soft tissues by the terrific impulse behind it, this flattened ball cuts a swath which would do credit to a good-sized fragment of a shell. This is the famous Dum-Dum. But the crowning glory of the bullet-maker is called Mark IV. Its lead core is exposed at the tip and besides a hole is bored from the conical tip right down to the center of the bullet. Thus aided in its expansion, Mark IV. can destroy a track through the body which measures ten inches across at the point of exit. If fired into a skull filled with plaster-of-Paris about to set, the whole skull will be scattered in pieces over the floor, as if it had exploded. Now, as to the English ethics of these bullets: Mark IV. for elephants and tigers, who carry no fire-arms; the Dum-Dum for natives with spears and arrows, and Mark II. for the Boers who, by the way, use Mausers.

England's use of expansile bullets has been severely criticised on the Continent on grounds which appear ludicrous to a man of peace. Why not take a ten-inch cone out of a man's back if you are trying to kill him? The sum of the matter is that humanity and war don't mix and a battle in which the soldiers are no longer able to take delight in the carnage is as poor fun as horse-racing without betting.

ECHOES AND NEWS.

NEW YORK.

Hospital Luxury.—The Kings County Charity Hospital is up to date, and, in some respects, ahead of it. Its new wings are equipped with roof gardens for the use of patients. Other hospitals might make a note of this.

Bequest to Charity.—By the will of Dorman B. Eaton, who died in New York, December 23d, the Society for the Suppression of Vice receives $25,000 and the New York Skin and Cancer Hospital $10,000. In addition to these bequests Columbia and Harvard Universities each receive $100,000.

Cigarette Law.—A bill has been introduced in the Legislature at Albany, providing for the better protection of the public health in the manufacture and sale of cigarettes. No cigarettes shall be sold to persons under eighteen years of age. A penalty of $50 fine or sixty days' imprisonment is provided.

State Sanatoria for Consumptives.—The Charity Organization Society has obtained, through its special committee, the opinions of various representative societies of the State that are interested in this subject. Opinion seems to be divided between the establishment of new sanatoria and of giving State aid to those already established, as the Saranac Sanatorium and the Loomis Sanatorium.

Purity and the Police.—New York would seem to have reason to congratulate herself in the versatility of the members of its police force. One of the latest reported adjuncts to the city's "Finest" is the running of one of the Tenderloin's most notorious resorts by one of its members. When the guardians of public morals "stand in" in this way with the perverters of youth, what can be expected of our future generation of young men?

Contagious Diseases.—The health department submits the following report of contagious diseases for the week ending January 13, 1900: Measles, 757 cases and 25 deaths; diphtheria, 276 cases and 41 deaths; laryngeal diphtheria (croup), 15 cases and 12 deaths; scarlet fever, 226 cases and 6 deaths; smallpox, 1 case; chicken-pox, 37 cases; tuberculosis, 125 cases and 145 deaths; typhoid fever, 47 cases and 15 deaths; cerebro-spinal meningitis, 2 deaths.

A Human Ostrich.—A young man, twenty-two years of age, was taken ill recently, in Brooklyn, with symptoms of gastritis. By means of the X-ray various articles of hardware were located in his stomach. January 14th he submitted to gastrotomy with the result that there were taken from his stomach two keys, six hair-pins, one hundred and twenty-eight common pins, ten 2-½-inch iron nails, two horseshoe nails, three chains, one brass and two nickel, and a finger-ring with a stone setting.

Assistant Surgeon Bill.—The New York County Medical Association, at its meeting on January 15th, indorsed Senator Platt's bill for the purpose of giving the same status to acting assistant surgeons of the United States Army that is given to the acting assistant surgeons of the Navy. Resolutions were adopted requesting the delegates to the American Medical Association and the State Medical Association, when selected, to present the bill to these associations and inform them of the County Medical Association's action.

Oppose the Death Penalty.—The Association to Promote the Abolition of the Death Penalty was formed last week, at a meeting held at the Friends' Seminary, at Sixteenth street and Rutherford place. Gen. Newton M. Curtis presided at the meeting and was selected as president of the association. Ernest H Crosby was chosen vice-president, Franklin T. Carpenter, treasurer, and John W. Hutchinson, secretary. Assemblyman Maher was present and said that he would introduce a bill in the Legislature shortly to do away with the death penalty and that he had strong hopes that it would pass.

Water Shortage.—So serious are the prospects of a water famine in Brooklyn that the depart-

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ment authorities have arranged to make use of ponds near Jamaica. These ponds were formerly condemned by the State Board of Health on the ground that they were polluted by numerous nuisances, existing along the streams which supply them, and the water unfit for human use. It is estimated that about 6,000,000 gallons a day will be obtained from the ponds. Before the water is turned into the mains, however, public notice will be served to boil all drinking water. When these arrangements go into effect the Brooklyn health authorities may expect a prompt increase in the mortality rate.

Antitoxin *vs.* Chlorine.—War has again been declared by Mr. Russell, the champion of the use of chlorine gas in the treatment of diphtheria, and the New York Board of Health. Mr. Russell again charges the board with intolerance in not being willing to give the chlorine treatment a fair trial in the public institutions. On the other hand, the members of the Board personally affirm that a fair test of the chlorine treatment has already been made in the Willard Parker Hospital in a series of cases and found ineffectual to such a degree that they do not feel justified in continuing its further use. It would appear that Mr. Russell's statements require investigation rather than those of the Board of Health.

Koplik's Spots.—Aldrich, in an editorial in the December issue of the *Cleveland Medical Gazette,* sorrowfully regrets that he must rob Dr. Koplik of the credit of his discovery. In answer to the statements contained in this editorial, Dr. Koplik writes: "My first article appeared in the *Archives of Pediatrics,* December, 1896, and was entitled 'The Diagnosis of the Invasion of Measles from a Study of the Exanthema as it Appears on the Buccal Mucous Membrane.' I do not think that Dr. Weiss and Dr. Aldrich could have read my first article carefully; otherwise they would have seen that I described the *buccal sign only* as *pathognomonic* of beginning measles. Dr. Flindt (Jurgensen's translation) describes a spotted exanthema upon the soft and hard palate, the arch of the fauces, the mucous membrane of the cheeks and lips, and also the conjunctivæ. He speaks of vesicular formations in the center of the red spots, but he makes no mention of the *buccal* exanthema as the *only* pathognomonic sign of beginning measles."

Inspection Not Permitted.—The Court of Appeals, January 9th, handed down its decision in the case of the State Board of Charities *vs.* the New York Society for the Prevention of Cruelty to Children. By a vote of four to three it decided that the latter society does not come within the jurisdiction of the State Board of Charities. The decision is a far-reaching one, greatly restricting the powers and duties of the State Board. It says: "The scheme of State supervision was not intended to apply to every institution engaged in some good or commendable work for the relief of humanity from some of the various ills with which it is afflicted, but only to those maintained in whole or in part by the State or some of its political divisions, through which charity is dispensed by public authority to those having a claim upon the generosity of the State." This evidently means that no charitable institution or society is subject to the inspection of the State Board of Charities unless it receives public funds. No wrong can be done to any charitable institution that depends upon the beneficence of the public for its existence by an inspection at stated intervals by the State Board of Charities. The law should, therefore, be amended in such a way as to bring all these institutions within its scope. Many charitable institutions in New York that were established and supported originally by private donations have become so wealthy through the rise of real estate that they are able to defy public opinion and proper investigation.

The State Prisons.—The State Prison Commission submitted its report to the Legislature last week. The population of the State prisons, reformatories, penitentiaries, houses of refuge, and jails has decreased during the past year 741, standing now a little above 10,000. The decrease in the penitentiaries considered alone is 2387 since 1895. In the belief that nothing should be done to crush the prisoner's self-respect or unnecessarily humiliate him, the commission suggests that the prison authorities consider whether the lock-step should not be abolished. The commission condemns the present method of grading state prisoners according to the number of convictions, and contends that the prisoner's grade should depend upon his conduct in prison. The present system of employing convicts has made satisfactory progress, and is furnishing a reasonable amount of employment to the convicts. The law relating to the parole of convicts in the State prisons should be amended so that all prisoners, committed to state prisons for all terms (other than for life) shall be subject to the jurisdiction of the Board of Parole; that the term of sentence shall be treated as the maximum for which they may be detained; and that all prisoners, except life prisoners, may be paroled under proper restriction, and under rules and regulations to be made by the Board of Parole, care being taken that when prisoners are paroled they shall be provided with employment, enabling them to earn an honest livelihood.

Exhibition of Plague Bacilli.—At the meeting of the Section on Medicine, January 16th, Dr. William H. Park of the laboratories of the New York Board of Health exhibited, under the microscope, specimens of the plague bacillus. These specimens were cultivated from bubonic pus taken from the captain and the cook of the coffee steamer "W. R. Taylor," recently quarantined upon her arrival from Santos at New York harbor. The specimens taken from the bouillon culture showed the bacilli arranged in chains; those from the agar were in groups and were individually thick and fat. These are the first specimens of plague bac-

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illi that have ever been developed from cases of plague in this country. The specimens derived from the captain and the cook were identical with each other, and with some slides that had been obtained from India and from China.

At the same meeting Dr. F. S. Fielder presented a report upon some experiments made by him in the use of caustic potash to denude the skin preparatory to vaccination, instead of the ordinary methods of scarification. Dr. Hutchins of Georgia had announced that the pain of vaccination could be obviated, and the flow of blood prevented by this method. The use of caustic potash was recommended for use in cases of nervous children, as it obviated the use of any instrument and the drawing of blood. Dr. Fielder's experiments justify these claims for the method, but he did not find the method as successful as the ordinary inoculation after scarification with a needle or a lancet. More than thirty per cent. of the cases failed to take, although an equal number of cases vaccinated at the same time, with the same virus, were all successful. The failures were found to be due to a certain parchment-like condition of the skin caused by the potash, through which the virus could not ordinarily penetrate. Dr. Fielder was ready to admit, however, that the advantages of the method rendered it quite worthy of trial in cases of hysterically nervous children.

PHILADELPHIA.

Health Reports.—The number of deaths in the city for the week ending January 13th was 504, a decrease of 9 from last week and a decrease of 38 from the corresponding week of 1899. Contagious diseases: Scarlet fever, 78 new cases, 6 deaths; diphtheria, 137 new cases, 28 deaths; enteric fever, 32 new cases, 1 death.

Hospital Reports.—Officers for the year have been elected by the West Philadelphia Hospital for Women and the Polyclinic Hospital. The report of the Board of the latter shows a remarkable increase in its work during the past five years. In 1899 there were 1007 more free-bed days recorded and 1883 more accident cases treated than during the previous year.

Death-Rate, 1899.—The total number of deaths reported in Philadelphia during 1899 was 23,796, or a ratio of 18.78 per 1000 of estimated population. This is the lowest ratio reported since the year 1888, when the rate was only .06 per cent. lower. Of the whole number of deaths during the last twelve months 4560 were of children under one year of age and 2496 between the ages of one and five years.

Results of Hanging.—The body of the negro hanged last week for the murder of his wife was taken immediately after being cut down to the dissecting-rooms of the Jefferson Medical College. The body was examined by members of the faculty of Jefferson and the University of Pennsylvania, and experiments were made regarding the persistence of muscular contraction, etc. It was also demonstrated that both the carotids were severed by the hanging. The results of the examination will be published.

Closure of Schools.—An epidemic of diphtheria and scarlet fever is prevailing at Scranton. The health officer has been given authority to close schools without asking the advice of the Board of Health. It is believed by the authorities, however, that the negligence of parents plays the greater part in the spread of the disease. For every case traced to a school ten could be found that originated from infected children playing with others in the streets or about their homes. This was allowed by parents after their children had been suspended from school.

Ruling of State Board.—The announcement of the State Board of Medical Examiners that graduates who have had but three years at a medical college are not eligible for examination has provoked a great deal of discussion. This ruling applies to college graduates whose degree has been accepted in lieu of the freshman year at the medical college. Among those taking part in the discussion as to the desirability and legality of this ruling are Dr. W. W. Keen, Dr. Henry Beates, Jr., of the Board, and Dr. H C. Wood. The latter believes that even seven years devoted to the exclusive study of medicine would not be too long a course. He would divide the physician's preparation as follows: Two years in college; four years in a medical school; one and a half years as a hospital resident; one and a half years in post-graduate study in the capitals of Europe.

History Repeats.—There is an old story told of a sufferer from melancholia who called upon a famous London physician in the early part of this century. The man of drugs tried all the resources of the materia medica, but in vain. At last he said: "You should go to see something funny at the theatre. Try Joseph Grimaldi."

"Alas!" replied the patient, "I am Joseph Grimaldi."

Why repeat this story now? Because after numerous avatars it has finally reappeared in the following form: Dr. S. Weir Mitchell, nerve specialist and novelist, while on his recent foreign tour, called upon an eminent German neurologist to consult him about a nervous trouble. He sent up a card inscribed simply, "Mr. Mitchell of Philadelphia."

The German examined him very carefully. Then he said: "My dear sir, do I understand that you come from Philadelphia?"

"Yes."

"Well, you should have consulted Dr. S. Weir Mitchell of that city."

"I am Dr. S. Weir Mitchell," was the answer.

Appendicitis Mortality.—At a meeting of the Philadelphia County Medical Society, January 3d, Dr. W. J. Hearn took exception to the title of a paper recently read in which the "great mortality" of appendicitis was mentioned. He considers the mortality rate to be low when the large

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number of cases and the many different operators are taken into account. At the Jefferson Hospital 120 cases have been operated upon with 8 deaths, a mortality of 6⅔ per cent. His own record is 50 cases with 2 deaths, a mortality of 4 per cent. Both these cases died from metastatic abscesses of the liver. In 20 of his cases the pus-cavity was evacuated and drained and the appendix not removed. At the Jefferson, operation is done as soon as the diagnosis of suppurative or ulcerative appendicitis is made; catarrhal cases are often not operated upon for the first attack. If there is no pus tumor Dr. Hearn makes his incision as near the anterior superior spinous process as he can. This is believed to guard against the occurrence of ventral hernia, as there are no loops of small intestine at that place and the colon is, of course, held by the meso-colon. If the appendix is readily reached it is removed; if not, it is left. Secondary operations are more often necessary because of secondary pus-cavities not opened at the time of the first operation than because of appendix stumps allowed to remain. If no limiting exudate has been secreted and the pus has worked into the pelvis or to the left side of the abdomen a counteropening is made in the left side, the abdominal cavity is washed through and through and drainage inserted. Most cases of fecal fistula are in the large intestine and heal spontaneously. An abdomen opened once has a certain tolerance for secondary operations. The cases that die are those in which operation has been delayed or are fulminant in character or have septic peritonitis.

Prevention of Tuberculosis.—A joint meeting of the Philadelphia County Medical Society and the Pennsyivania Society for the Prevention of Tuberculosis was held Wednesday evening, January 10th. The speakers included many of the prominent physicians of this city and also Dr. E. O. Otis of Boston. Dr. Solis-Cohen stated that Philadelphia as the medical center of the United States should not be behind other cities in solving the problem under consideration. The State also should recognize that the work of educating the people regarding tuberculosis is too great for individual effort and State aid should be given. People should be educated in the improvement of vital resistance and in the avoidance of infection by properly caring for sputa and by other disinfection. The plans of the Pennsylvania Society were presented by Dr. L. F. Flick. These are: (1) Education of the people by tracts, etc. (2) Registration of diseased human beings and animals. (3) Establishment of hospitals for advanced cases and sanatoria for incipient cases. Dr. J. C. Wilson read a paper on "The Necessity of Hospital Care for the Consumptive Poor." Hospitals are established for other contagious diseases, incidentally for the good of the individual, but primarily for public protection. Provision should be made for the consumptive also and the establishment of special hospitals and sanatoria is the solution of the problem. Patients should not be sent to them on commitment, but voluntarily. Sentimental difficulties will lessen as the plan is carried out. The arrest of the earning power of the individual is important, but some could still work in the sanatoria.

Dr. Guy Hinsdale spoke of the "Localities Suitable for the Treatment of Consumption in Sanatoria throughout Pennsylvania." Places where climatic conditions are most favorable are at Glen Summit and White Haven, in Luzerne county, 1250 feet elevation; the Pocono region in Monroe county, 1800 to 2100 feet elevation; Kane, in McKean county, 2000 feet elevation and one of the coldest and dryest parts of the State, and Cresson, in Cambria county. This has the same elevation as Kane and is already a summer resort. Dr. E. O. Otis advocated the establishment of city hospitals and sanatoria. Several hospitals would be needed for a city like Philadelphia. Voluntary applications would fill many hospitals. For others, make consumption a notifiable disease. It is a mercy to the poor consumptive even if it is against his will. Dr. J. M. Da Costa considered that the community owes more to the consumptive now since his lot had been made harder by the scientific discovery that consumption is a contagious disease and thus bars him from the general hospitals. For this reason it is doubly the duty of the medical profession to come to the rescue of these sufferers.

CHICAGO.

State Sanatorium.—At a meeting held January 10th, the State Board of Health unanimously recommended the establishment in Illinois of a sanatorium for consumptives.

Smallpox.—There have been reported to the State Board of Health during the past quarter over five hundred cases of smallpox, the disease occurring in seventeen counties. There were five deaths from the disease in Alexander, Lee, and Williamson counties.

Dr. N. S. Davis.—The father of the American Medical Association celebrated the eighty-third anniversary of his birthday on January 9th. Dr. Davis is still well and active. He spent most of his leisure time receiving congratulations from professional and other friends.

Osteopaths Fight.—The osteopaths of the State will make an effort to test the medical practise act passed by the last Legislature, because at the instance of the State Board of Health it is said that three arrests have been made, and the parties so arrested promise to bring suits for false imprisonment.

School Inspection.—Reports for the first day's work of the medical inspectors of public schools revealed more than a score of children suffering from scarlet fever in the desquamative period. These children were sent home, to remain there until danger of contagion has passed. This revelation shows that the appointment of the inspectors was justified.

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Officers of the Chicago Ophthalmological and Otological Society.—At a meeting, held January 9th, Dr. C. D. Wescott was elected president, Dr. Casey A. Wood, vice-president, and Dr. C. P. Pinckard, secretary-treasurer. The membership committee consists of Drs. Wilder, Ware and Coleman. Dr. William E. Gamble showed a case of interstitial keratitis, and Dr. Oscar Dodd one of quinine amblyopia. Dr. J. E. Colburn reported a case of methyl alcohol poisoning.

Sand Filtration.—The committee appointed by the State Board of Health to investigate the water supplies and sewage systems of cities on Lake Michigan, north of Evanston, in its report recommend that the cities adopt slow sand filtration as a means of purifying their water supply, which is known to be polluted. The report was accompanied by an analysis of the water of Lake Michigan at Highland Park, made by Professor J. H. Long, which showed the water to be polluted.

Abolition of the Board.—It is said that the homeopaths and eclectics of Illinois are organizing to fight the medical practise act, passed by the State Legislature last year, making the State Board of Health a Medical Examining Board. Their aim is to have this act repealed during the coming session of the State Legislature, and to abolish the State Board of Health in its present form, substituting for it a Board of Sanitation, whose members shall be chosen as are other State officials.

Vital Statistics.—The mortality for the first week of the new year, as shown by the weekly report of the Health Department, was in excess of the preceding week, and 19 more than for the corresponding week of 1899. The excessive number of deaths at the present time is declared to be due chiefly to the prevalence of the acute respiratory diseases, pneumonia and bronchitis. These two diseases are alone responsible for 25½ per cent. of the total mortality, there being 91 deaths from pneumonia, and 41 from bronchitis. The mortality from diphtheria during the week was in excess of that of any week during the past year, there being 28 deaths from this cause, as compared with 27 the week previous, and 18 the corresponding week of 1898.

Fixation of the Stirrup.—Dr. J. Holinger read a paper before the Chicago Pathological Society on this subject, in which he drew the following conclusions: (1) The fixation of the stirrup is due to abnormal growths of spongy bone in the bony capsule of the labyrinth. (2) This growth has its primary seat in the surroundings of the oval window. It may spread over other parts of the labyrinth by continuity. (3) Besides a simple enlargement of the foci, independent, circumscribed foci may be found in other parts of the labyrinth. (4) The spongy bone outgrows the normal labyrinth, forming osteophytes in the middle ear, the vestibulum, into the oval window and its niche. (5) The stirrup thus becomes fixed or even luxated, being pushed away from its normal position, and becomes ankylosed in an abnormal position. (6) Microscopically the bone corpuscles are large and clumsy. The perivascular and perineural spaces are filled with bone. In the open spaces of the spongy tissue connective tissue is found.

GENERAL.

Professor Chittenden Ill.—Director Russell H. Chittenden of the Sheffield Scientific School was reported, on January 16, to be seriously ill with typhoid fever. Professor Chittenden is one of the foremost authorities in physiological chemistry and bacteriology in the world.

Influenza in Europe.—Last week we mentioned the serious epidemic character of influenza which was raging in London. Telegrams from Berlin announce that it is now rife in that city, and that scores of deaths from that cause are already reported. Barcelona, Spain, also reports the presence there of the influenza.

Professor Atwater Controverted.—In a pamphlet entitled "An Appeal to Truth," a committee appointed at the Northfield (Mass) Summer Conference of Christian Workers of 1899 has presented scientific evidence to the effect that Professor Atwater's costly experiments have produced nothing to sustain his charge of error against the present temperance teaching that alcohol is not a food but a poison.

Device to Identify Babies.—The physicians of Johns Hopkins Hospital have devised a plan to prevent the "mixing-up" of the newly-born in the obstetrical wards. A square of water-proof adhesive plaster, on which is written the baby's name, is applied tightly between the shoulder blades. This remains secure until the baby and its mother leave the hospital, when it is pulled off without giving the infant pain.

The Dum-Dum Bullets.—It is reported from London that the Lee-Metford cartridges are running short in the British magazines and the War Office purposes falling back temporarily upon 100,000,000 "Mark IV." expanding bullets, most of which are already in storage in South Africa. The War Office, however, has issued strict orders to the volunteers now in England that the fifty rounds of "Mark IV." given them must be used in practise at home.

Dead Animals in the Paris Streets.—A most extraordinary sanitary regulation has recently gone into effect in Paris. Formerly there were no facilities for removing dead animals from the streets and they were left to decompose in the sun and rain. The prefect of police has inaugurated a scheme by which such nuisances may be removed on application by any citizen. The applicant, however, is obliged to stand the expense of removal, but the cost is not to exceed $1.

Farms for Consumptives.—A project is about to be launched in Colorado which is apparently of

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more value in the treatment of consumptives than anything that has heretofore been offered. It is proposed to establish from Denver south a series of plantations, which shall be under State control, but so far as possible will be made self-sustaining by the labor of their inmates. These are to be opened to those consumptives who can afford the price of transportation.

Hospital Cruisers.—The latest suggestion in the crusade of trained nursing comes from the Colonial Nursing Association of London. It proposes to fit up hospital cruisers, supply them with dostors and women nurses, and send them out to the tropics, where they can cruise about and instruct the natives, at points where they touch, in the art of nursing, the establishment of hospitals, etc. The expensive equipment of hospital ships would not be required in these cruisers; it is not their purpose necessarily to follow the ravages of war, but to go to peaceable settlements.

Obituary.—After an illness of two days Medical Inspector Charles A. Siegfried, U. S. A., died January 14th, from consumption, at his home in Newport. Inspector Siegfried was a graduate of Jefferson Medical College and took a post-graduate course in Germany and at the Johns Hopkins University. During the war with Spain he had charge of the Naval Hospital at Key West. He leaves a wife, who was Miss Farrel of Peoria, Ill., and a cousin of the late Robert Ingersoll.—Dr. William H. Lyons died at his home, New York City, January 13th. He was a graduate of the College of Physicians and Surgeons and had been in active practise for twenty-five years.

Death of Dr. Axtell.—Simultaneously with the publication of an article by Dr. Edwin R. Axtell of Denver, Col., which appears in this issue we are grieved to announce his death, which occurred at his home, December 14, 1899. His death was due to a virulent streptococcic infection incurred during the performance of a post-mortem examination, December 1st, upon a subject dead of sepsis, at the County Hospital. Dr. Axtell was 33 years of age. He had been especially interested in bacteriology and pathology, and had recently been appointed visiting physician to the County Hospital. He had just reached the point where, having laid a magnificent foundation by the devotion of twelve years to the study of the fundamentals of medical science, he was about to enter upon clinical work. He gave promise of a brilliant career.

Nursing in Ladysmith.—A nurse, who went to Ladysmith October 28th, and afterward accompanied the wounded to Durban, vividly describes some of her experiences in the *Hospital Nursing Mirror*. "We were operating, amputating, all Tuesday night and they were dying all around us. I washed twenty men all alone. Some were put under the X-rays for the bullets. Many nurses had narrow escapes. During Monday the enemy kept shelling the town, and a shell fell right at Nurse M.'s and my feet. On Wednesday the twenty-four hours' truce was over which was granted by General White to the enemy to bury their dead and attend to the wounded. We were all up and ready for the Boers to shell the town and on one who was not there can ever imagine what we felt like when 'Long Tom' began to fire; our own guns were not in position then."

Malaria Eradication.—The English Malarial Expedition, with the hope of eradicating malaria in its native districts, recommends that the haunts of the malaria-bearing mosquito should be destroyed or rendered uninhabitable by the larvæ of that insect. The German expedition to Italy, acting upon the theory that the cycle of sexual reproduction is completed only by a sojourn of the plasmodium in the blood of man, recommends that all people living in malarial districts should be treated efficiently with quinine during the period that the plasmodium is confined to man as its only host. If the parasites can live outside the human body only in certain species of mosquitoes and during the hottest months, it follows that for about eight months of the year they are confined to man. It is during this time, the committee believes, that the malarial parasite of any given neighborhood may be absolutely destroyed by treating all the patients with quinine. This committee finds that a second variety of mosquito, the *calex pipiens*, as well as the *anopheles*, acts as a host of the malarial plasmodium.

The Merciful Mauser.—Sir William MacCormack, the President of the Royal College of Surgeons, who has volunteered his services for the South African war, has related in a letter to the *Lancet* his first experiences with wounds inflicted by the Mauser bullet. The external wound produced by it is small. In three-fourths or more cases it was impossible to tell the exit from the entrance wound, so similar were they in appearance. Some were quite healed, but most were slits covered with an adherent black scab, slightly depressed and saucer-like. The size was much smaller than the end of a lead-pencil and quite circular. A few exit wounds were slits, due to slight deflection in the passage of the bullets. These were healed like incised wounds and showed a linear cicatrix about half an inch long. Probably most of the injuries examined were inflicted at a range of 1000 yards. Sir William noticed a number of bone perforations without any solution of continuity or complete fracture; in one instance there was such a perforation of the shaft of the tibia at the junction of the upper and middle third. There were several cases in which the bullet had entered the groin and had emerged through the central portion of the buttock, the direction taken making it difficult to conceive how the femoral vessels, the sciatic nerve and artery, the femur, and other important parts had escaped all injury. Several cases of abdominal injury with recovery without laparotomy were noted. Seventeen very interesting

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cases are briefly described, most of which are characterized by quick recovery.

The Plague.—It is reported from Manila that two more cases of plague have appeared there. The authorities seem to have the matter well in hand, however, and all danger of an epidemic is very remote. The health authorities at Adelaide. South Australia, report January 14th two cases of bubonic plague there, one being fatal.

At Honolulu twenty-two deaths from bubonic plague have been reported up to January 9th. Practically every case has proved fatal, but four cases now in the hospital promise recovery. About two thousand persons have been removed from the infected quarter, and are now herded in quarantine camps. New cases are constantly appearing at points distant from the original center of infection, showing that the germs of the disease have been widely scattered. The Council of State has appropriated $20,000 for a garbage crematory, and $250,000 with which to put the city in a sanitary condition.

The lifting of the quarantine on Chinatown just before Christmas is thought to have been responsible for the fresh outbreak of the disease. On December 31st it was decided to destroy all infected houses. Since then five sections of Chinatown have been destroyed. Two sections were burned recently. One of these included the principal Chinese Joss house in the city, where a Chinese was found sick with the plague.

In the meantime a house-to-house inspection is going on, especially in the Asiatic quarter. This inspection has revealed several cases of leprosy that had escaped the vigilance of the authorities.

C. F. Reynolds, Executive Agent of the Board of Health, who has been most active in the work of fighting the plague, has been taken sick and is believed to have the plague.

The fear of the plague at Tokio, Japan, has led to a general housecleaning of the city. Every house and hovel within its hundred square miles of area is being cleansed under police supervision, and the streets are piled with rubbish heaps. Not only the mats, but the floors are removed and the accumulated débris of years is being swept away.

The number of deaths, largely from the bubonic plague, jumped up, at Bombay January 12th from 282 to 376. The normal death-rate is 75.

The bubonic plague has made its appearance at Rio Janeiro, as shown by the following cablegram received January 11th by Surgeon-General Wyman of the Marine Hospital Service.

"There has been one death from plague at Rio Janeiro. This diagnosis confirmed by bacteriological examination."

MEDICAL JOTTINGS FROM TROPICAL COUNTRIES.

Specific Cuban Fever.—Dr. Thomas B. Coronado, in an article on "Our Fevers," which appeared in a recent number (No. 421) of the *Anales de la Academia ciencias medicas, fiscas y naturales de Habana,* discusses the various fevers that occur in Cuba. All of them come under the head of some of the ordinary infectious fevers—yellow fever, or typhoid, or la grippe, or dengue, or malaria. There is no such thing as a special form of febrile disease running a course peculiar to itself and causing anatomical lesions that can be differentiated from these well-known affections. The term "Cuban fever" usually means malarial fever of the remittent type. A combination of typhoid and malaria, a typho-malarial fever, is reported rather frequently in Cuba, but it is probable that it is of rare occurrence, and that the cases seen are anomalous types of either disease.

Pathogenesis of Yellow Fever.—This is the title of an article read by Dr. M. S. Iglesias before the National Academy of Medicine of Mexico and published in the *Gaceta Medica* of Mexico, November, 1899. Dr. Iglesias has been able to secure all the details of the histories of 127 cases of yellow fever that occurred in Vera Cruz during the epidemic of July, 1898. A careful collation of the details of these histories seems to him to bring out the conclusion that water is never the means by which yellow fever is distributed. It also seems to bring out the fact that the micro-organisms which cause the disease find their way into the system through the patient's lungs; that they multiply in the pulmonary alveoli, producing the toxin which after absorption cause the constitutional symptoms of the disease. It is in the lungs and not in the blood, the liver, or the digestive tube of the patient that the microbe of the disease must be sought, although so much fruitless work has been done in the investigation of these latter organs post-mortem, while the lungs have usually been entirely neglected.

Beri-Beri.—Sporadic cases of beri-beri have become so frequent in the seaport towns of this country that the question of the micro-organism of the disease has become an interesting one for American medical men, or at least those who live along the coast. Scheube, in a critical review of the subject of the etiology of beri-beri in the *Archiv f. Schiffs und Tropen Hygiene,* not long ago, declares that all the supposed pathogenic agents which have so far been discovered by observers and announced as the specific cause of this curious disease have had but an ephemeral reputation in this regard. He considers that the organism is still to be discovered. Somewhat more than a year ago Dr. Francisco Fajardo of Brazil, in a communication to the National Academy of Medicine of that country, presented an article to that body on the etiology of beri-beri, and demonstrated a series of preparations in which he thought he was able to point out the microbic cause of the disease. The parasite is a hematozoon and is not unlike the parasite which causes malaria. The new hamatozoon, which it is proposed to call the methematozoarium Fajardi, is not affected at all by quinine. This constitutes

the main difference between the two parasites. As the result of Dr. Farjaro's demonstrations the new parasite was accepted by most of the members of the Academy as the real cause of the disease. Dr. Miguel Pereira, in an article on the subject in the *Revista Medica de San Paulo,* confirms Dr. Fajardo's conclusions and announces that he has been able to find in fresh preparations of blood drawn from the peripheral circulation of patients suffering from beri-beri a corpuscle of oval form containing pigment with an appendix at one of its poles, as if it were on the point of sporulation. Dr. Fajardo, to whom the preparations were submitted, identifies the specimens as one of the forms of the hematozoarium which he described.

Wintergreen in Chorea.—So much has been written about the connection between chorea and rheumatism that it is a little surprising that the presumedly specific remedies for rheumatism have not been more frequently used in the disease. In a series of cases in France it has been found that oil of wintergreen was a very efficient remedy for this affection; that it often gave satisfactory results where the ordinary medicaments recommended for the affection failed. From 45 to 75 grains of the drug were given daily, although more than this has been used in certain cases. The remedy has been tried with success in Brazil, according to a recent number of the *Revista Medica de San Paulo* and it would seem that a new remedy for this affection, which often proves so obstinate to treatment, has been found.

Contagiousness of Plague.—Dr. Victor Godinho, one of the editors of the *Revista Medica de San Paulo,* in an article, written before the occurrence of any plague cases in Brazil, calls attention to the different methods by which plague is propagated. While the favorite method would seem to be inoculation under the skin or through the mucous membrane of the mouth or the digestive tract, Dr. Godinho points out that in many cases that are always of the fatal type the infection takes place through the lungs. All three of the cases he recalls that occurred in Vienna were of this pulmonary type. He thinks that transmission of the disease through the air is very common, and he argues therefrom the necessity for the greatest caution in their commercial relations with Portugal, and especially with Oporto, as the introduction of the disease into South America will probably give rise to a severe epidemic. This ominous foreboding before the event is all the more striking now that we know that the disease has gained a foothold at Santos, and perhaps even at San Paulo itself, and that Dr. Godinho's prophecy is being fulfilled. The eradication of the disease is proving to be anything but an easy task.

Drs. Pryor and Dillon Brown of New York, both of whom have been having a serious struggle with typhoid fever, and have occasioned great anxiety among their friends in the profession, are reported as improving.

CORRESPONDENCE.

THE "BAREFOOT CRAZE"; A LETTER TO HIS "GRANDMOTHER"—THE WORLD.

MY DEAR GRANDMOTHER:—I have a confession to make, and one that you would hardly believe possible, in view of my strong advocacy of late years of a certain new doctrine. While we differ markedly in some respects, still in the matter of our "natural instincts" we are very much alike. Our instincts are simply our inheritance from our ancestors, inheritance of beliefs, notions, or whatever we may chose to call them. My confession is that in spite of my practise of having my children go barefooted, not only in summer but even throughout the winter indoors, with no objection to a brief run in the snow for that matter, still my first impression, that is my instinct, is precisely like your own; there is a sort of cringing feeling comes over me every time I see them outdoors barefooted in the wet, cold grass of a November morning. Hence I am able to fully sympathize with you, dear grandmother, when you shudder and feel inclined to "roast" me for my cruel treatment of your great-grandchildren. But the fact of it is, my *reason*—and herein, by the way, lies the difference between instinct and reason; the latter can be modified by evidence, while the former is like the color of our eyes, or hair, constitution, temperament, etc., practically unchangeable—my *reason* has been convinced by an amount and quality of proof that cannot be controverted; hence I am compelled to smother my instinctive feeling inclining me to save my little ones from the alleged dangers arising from going barefoot. This, you dear old soul, is what you cannot possibly do; for you have only your instinct in this matter to guide your feelings, and it is more than doubtful if you are really willing to put your mind in an attitude to candidly consider the great array of evidence furnished by numerous intelligent and studious witnesses who have, like myself, been forced to put instinct aside and listen to reason.

On a cold October day, a dozen or more years ago, the passengers on a train running out of Baltimore were shocked to see a ten-year-old boy leap out of the car and run along the platform barefooted. When the train was about ready to start the lad re-entered the car and joined his friends, a mother and sister, both elegantly dressed and evidently belonging to the "higher class." Indignation among the good people who witnessed this extraordinary sight ran high, naturally enough. It was not that these onlookers were what we could properly call ignorant people, but the way in which they acted on this occasion clearly proved their ignorance in this particular matter. However, before this little group of happy people was outraged by any marked demonstration of the ignorance and brutality of the mob, a newspaper man who chanced to be on the train, thinking more of an item for his paper and of his own income than

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of the boy's danger of dying of pneumonia before reaching Washington, approached the ladies and in a most respectful manner, apologizing for his action, begged for an explanation which was very amiably given. The elder one of the party was the wife of Dr. ——— of Baltimore, a fashionable regular, and the young lady and the barefooted boy were their children. It seems that the first three children of this couple died of diphtheria, although they had been very carefully shod, stockinged, and in all ways treated according to the conventional views then as now prevailing. By the time of the advent of their fourth child, the father had heard something about the Father Kneipp "Barefoot Cure," and upon careful investigation and study of the anatomy and physiology and hygiene of the question he became convinced of the fact that his care for his first children had been mistaken, and he adopted a radically different plan, especially in the treatment of the new baby's feet. It seemed to work quite satisfactorily. The baby had fewer "colds," as these well-known but much misunderstood attacks are commonly termed, and in all ways grew more robust than its predecessors. They now had three children, the eldest a young woman, the ten-year-old boy, and another boy between the two in age. All three had been kept barefooted, winter and summer, throughout their childhood, *using* not *abusing* shoes and stockings—that is wearing them when required for protection against snow and severe cold, and, upon occasion, for style! The story spread rapidly among the passengers, and thus a scene was prevented.

Within the past seven or eight years a member of the family of the late Premier of England, Gladstone, has had the benefit of the barefoot cure. Little Dorothea Drew, Gladstone's granddaughter, was a puny child; they heard of the Kneipp treatment, or perhaps it was their family doctor who first became a convert and prescribed the treatment. At any rate, she was given the benefit of the method, and she went barefooted winter and summer, outdoors and indoors, except outdoors when there was snow or cold mud. By this means and a restricted and improved diet she grew into a hale, hearty child. I think I have mentioned this pregnant fact before but it will bear repeating over and over again and ought to be printed and spread before the people until the lesson shall be generally comprehended.

Here is another item of evidence and from a "reluctant witness"—the kind that is in law declared to give the most convincing testimony: Dr. Thomas, a regular, and for many years with the missionaries in Turkey-in-Asia, some years ago contributed an article to the *Medical Times* on this topic, in which he told how it used to "break his heart" to see the children of both rich and poor going barefoot all the year round, these bare feet often blue with the cold; "but," he says, "as the time rolled along, year after year, and I could observe no ill effects from the practise, but, on the other hand, an absolute exemption among the native children from croup and diphtheria, I became quite reconciled to the practise. In eighteen years I was never called to attend a case of croup or diphtheria."

You see, dear grandmother, how much pains I am taking to convice your mind in this matter, so that your declining years may not be made wretched at the sight of your precious grandchildren clipping about the house and grounds with feet which (barring accidents) smell as sweet as their hands, feet that are physiologically clean, instead of being penned up in their filthy secretions to aid in the production of the various filth-diseases, from ordinary "colds" to the more fatal disorders, measles, scarlet fever, pneumonia, diphtheria, etc. If only you can be convinced of the truth of this matter and thus enabled to help educate others, instead of standing ready to aid and abet the ill-informed gossips who do so much to check all progress along hygienic lines, much good would arise from it, and you would experience a new and delightful sensation at finding yourself in the van of progress, instead of hanging on behind, so to say.

Evidence such as I have herein given you could be multiplied and volumes of proof furnished to show the correctness of my claim, but it could add nothing to what has already been offered, and I imagine that you have now as much as you can digest and assimilate, and I do not wish to weary you.

Your affectionate grandson,

Charles E. Page, M.D.

154 TREMONT ST., BOSTON, MASS.

OUR LONDON LETTER.

[From Our Special Correspondent.]

LONDON, January 6, 1900.

HIGH DEATH-RATE IN LONDON—TWENTY-TWO INFANTS SUFFOCATED—WELSH WATER FOR LONDON—CHRISTMAS AT THE HOSPITALS—OVERCROWDING AND HIGH MORTALITY IN KENSINGTON—MUNICIPAL "ECONOMY" IN SANITARY MATTERS—WATSON CHEYNE GOES TO THE FRONT—TWO HUNDRED MEDICAL STUDENTS VOLUNTEER AS DISPENSERS—CONVALESCENTS FROM DURBAN RETURNING TO ACTIVE SERVICE.

THE death-rate in London last week showed a continuation of the heavy rise noted in our last letter, due to the combination of snow and fog. The high figure of 23.8 per 1000 was reached, the climax so far of a rapid upward climb from hardly above 17 per 1000 of some five weeks ago, last week's being 22.4. The lion's share, as usual, both of actual deaths and increase, falls to diseases of the respiratory organs which caused no less than 646 out of the total of 2078, or about 32 per cent. This huge number is 208 above the corrected average for this week of the year.

There is also uncomfortable evidence that the smallpox epidemic at Hull is far from being

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checked, as twelve deaths are reported, but only one other in all England and Wales by this disease.

A startling item to Transatlantic eyes is the number of deaths of infants from suffocation in bed, which stands at the appalling figure of twenty-two in one week. These are due chiefly to two factors, overcrowding and alcoholism, parents rolling over upon their offspring in the heavy slumber of drunkenness. It is said that most of these distressing accidents occur upon Saturday nights, after the "pay-day" carouse.

The London County Council, undiscouraged by its previous experiences of the hardness of heart or thickness of head of the average member of Parliament when sanitary matters are to the fore, is again preparing a Water Supply bill to come before the next session. This is a broad and far-seeing measure providing for the securing of collection-basins and reservoirs in the Welsh mountains and the construction of aqueducts to connect these with London. It is a colossal project, as its estimated expense, $90,000,000, would faintly shadow forth, but it would be one of the best investments imaginable for the metropolis for years, indeed centuries, to come. From a hygienic point of view this goes without saying, but it would be so from a financial, if past experience is any guide. A single "Founder's" or "Adventurer's" share in any of the old waterworks companies of London is now a small fortune in itself. One recently put up for public sale had an advertised income of over $20,000 attached to it, and it was described and handled as if it had been a ducal estate, fetching finally a fabulous sum. Nor are their golden days over even yet, for the Welsh scheme will take at least fifteen years, after the expenditure has been authorized, to open up the first line of communication.

Christmas was celebrated at the hospitals with the usual kindly and cheering festivities, with turkeys, game and mince-pies for dinner, dessert and "smokers" in the afternoon and conjuring and dramatic entertainments in the evening. It is estimated that not a single patient in all the London wards failed to receive at least one present, so that there are evidently many worse places in which to spend Christmas than the great hospitals.

A distressing exception to the usually high standard of sanitation maintained in London has just been made public in the report of the Special Inspector, Dr. Hamer, upon the condition of Kensington, one of the wealthiest parishes in the West of London. It is the old Court Suburb and takes its name from the Royal Palace, in which Queen Victoria spent her childhood. In the area specially reported upon, the overcrowding is scandalous, eleven houses in one street containing 252 inmates, eight houses in another street, 238, and twenty-three common lodging-houses sheltering every night an average of 622, or nearly thirty each. So that we can hardly be surprised to hear that the death-rate of this district stood in 1898 at 45.5 per 1000, more than double the general London rate. The chief excess was in the infant mortality. As usual, this condition of affairs has come about by the persistent disregard, on the part of the Vestry, of the urgent recommendations of the district medical officer, Dr. Dudfield. His requests for an increase of the sanitary staff were refused on the ground of expense, but, as Dr. Hamer, in summing up severely remarks, the outlay to which they have been put in connection with sickness, quarantine and death, has been far greater than that which would have been needed to bring the sanitary staff up to an effective basis. To say nothing of the suffering, notoriety and disgrace incurred.

Another leader of the profession has volunteered for service in South Africa. Watson Cheyne, the well-known surgeon and surgical pathologist of Kings College Hospital, is to start at once accompanied by Mr G. Cheatle and Mr. F. A. Hadley, house-surgeon. This makes the third of the great London hospital schools to be represented at the front by the chief surgeon; St. Thomas's, by Sir William MacCormac; the London, by Mr. Fred. Treves, and now Kings, by Watson Cheyne. Scores of the younger men are most anxious to go and a batch of seventeen are being sent out by one transport this week.

A few days ago in Edinburgh a call was issued to the medical students for volunteers for the Army Medical Corps as dispensers. Even for this necessary and useful but not particular exciting service the response was most generous, no less than two hundred men presenting themselves as volunteers. A number of offers of service were also received by telegraph from students absent on their vacations. Only three days later the first squad of those selected were ready to depart for Aldershot, *en route* for the Cape.

Sir William MacCormac praises most highly the efficiency of the ambulance corps at the front, both army and volunteer. No less than 800 wounded have passed through Chievely Field Hospital, and all requiring attention were removed from the field of battle by five o'clock in the evening. The base hospitals seem to be doing equally good work, as several detachments of convalescents have already returned to service at the front, completely restored by their short stay in the sea-air and under skilful nursing and attendance on the hospital ship "Lismore Castle," anchored off Durban.

TRANSACTIONS OF FOREIGN SOCIETIES.

German.

THE SCIENTIFIC BASIS OF ORGANOTHERAPY—THE PRACTICAL RESULTS OF ORGANOTHERAPY—ACTINOMYCOSIS OF THE KIDNEY—POISONING BY URINE—CARCINOMA OF THE LARGE INTESTINE.

AT the Berlin Medical Society, Nov. 8th, A. Loewy and P. F. Richter read a paper upon the scientific basis of organotherapy. They de-

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scribed organotherapy as a method of substitution, by which some substance lost to the body is replaced. As the most striking example of this method of treatment they mentioned thyroid therapy. By the removal of the thyroid the organism suffers and certain symptoms develop which may entirely subside if thyroid glands or thyroid extracts are ingested in sufficient quantity. The conditions after the removal or resection of the spleen, kidneys, suprarenal capsule, pancreas, or regenerative glands are not so easily understood, since the physiological effect of these organs upon the rest of the body is not at all known. That they have a marked influence, however, is shown by the changes which take place even in the skeleton after the removal, for example, of the ovaries or testicles in early life. There is also a change of metabolism produced by castration which can be scientifically studied in the case of animals. The writers then described in detail the results of their investigations along these lines, stating that the ingestion of ovaries restored metabolism to normal in animals and in women whose ovaries had been removed. They also expressed the hope that oophorin-therapy will be successful in relieving the symptoms of chlorosis, a disease due, according to their theory, to insufficient action of the ovaries.

In the discussion of their paper, Ewald said that the theoretical views advanced by the authors were not sustained by the practical results which, in his hands, followed the administration of ovarian extract. He has given oophorin in a great many instances; sometimes to women in the climacteric, sometimes to young girls suffering from imperfect menstruation. In certain cases the results appeared favorable, but in many more no good result could be observed He therefore expressed himself as skeptical regarding the remedy, which at best acted in a very unsatisfactory way, and said he considered that the good improvement was due to suggestion, or was merely a coincidence.

Landau has also given oophorin to many women who suffered from the symptoms of an artificially produced climateric, whether as a result of operation or disease. He expressed himself as being in general much pleased with the results obtained, although he admitted that they were by no means so certain as those which follow the administration of quinine in malaria or mercury in syphilis.

Virchow said that it is a most uncertain method to grind up a whole ovary and give it as medicine without knowing to what portion of the structure any possible result which may follow is to be attributed. The amount of the specific cells contained in an ovary is so slight that it is difficult to imagine that they can possibly produce the striking results said to follow the administration of ovaries. When one goes further and asserts that a transplanted ovary can live in its new situation and manufacture whatever special secretion the normal ovary produces, he is spinning a tale which belongs to the "Thousand and One Nights." When one considers what differences of opinion there are with reference to the therapeutic effects of so comparatively simple a substance as serum, there is evident need of further knowledge of the active principle of such a complex organ as an ovary before one discusses the therapeutic effects of oophorin.

Pinkuss said that it is necessary to know the patient before drawing conclusions as to the effect of oophorin treatment. Hysterical women and women who have suffered severely from chronic inflammatory troubles before their operations may improve after the administration of oophorin, but such improvement can well be due even to suggestion or to the removal of the diseased organs. At the last congress of gynecologists the advisability of leaving the whole or a portion of one ovary was thoroughly discussed. Most of those who heard the discussion came to the conclusion that it is absolutely a matter of indifference whether one ovary is left or not. Some women after castration present the symptoms attributed to suppression of menstruation, while others do not.

Hansemann called attention to the differences which probably exist between glands of different animals. Thus the thyroid of a sheep and the thyroid of another animal may have similar functions, but their extracts are probably neither exactly alike nor like that in the thyroid in man. Under such circumstances it is not to be expected that the results obtained by the administration of thyroid tablets will be in all cases similar.

At the meeting of November 29th, J. Israel showed an actinomycotic kidney which he had taken from a man aged thirty-three years. The patient had hematuria, especially after violent exercise, for seven years. Two years after the beginning of the trouble his kidney was opened for the removal of stone, but none was found. The organ was found adherent by its upper end, but was left *in situ*. The patient did not improve, but grew weaker and lost flesh and strength, while the fistula leading into the kidney never closed. An exploratory operation was therefore performed, and as the substance of the kidney was found to be thoroughly degenerated, the kidney and fistulous tract were removed. Microscopical examination of the contents of the cyst showed the presence of antinomycosis.

Posner discussed the poisoning by urine at the meeting of December 6th. Experiments which have been cited to prove the poisonous qualities of urine are open to serious criticism The injection of great quantities of fluid is not without danger, while too little attention has been given to the osmotic effect of the injected fluid, and to the general condition of the animals experimented upon. In his own experiments he used white mice and injected subcutaneously urine of such concentration that its freezing point was identical with that of blood serum. It has been found that solutions having the same freezing point as serum are osmotically indifferent, and

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do not irritate the tissues when injected into them. Distilled water will kill a mouse if injected into his tissues. A solution of salt 0.9 or 1.0 per cent (not 0.6 per cent., as usually supposed) is absolutely indifferent and is the real normal or physiological solution. Urine having the freezing point of serum produced little more effect when injected into mice than did the physiologic salt solution. It would be going too far to conclude that urine has no poisonous quality, but the poisoning in uremia is certainly not explained by injection of urine into the tissues.

At the Union for Internal Medicine, November 27th, Boas gave his experience with carcinoma of the large intestine. He has seen fifteen patients, three of them women. In six cases the site of the tumor was the cecum, in four the sigmoid flexure. In certain cases the subjective symptoms are so slight that the diagnosis cannot be made; in other instances there is obstinate constipation or severe colicky pains with nausea and vomiting. In such instances the carcinoma is of a circular form. Sometimes the first suspicion of the tumor is aroused when intestinal obstruction occurs. Tumors in the cecal region must be differentiated from tuberculosis and inflammatory products the result of appendicitis. Medical treatment consists in keeping the bowels open. Twelve of the fifteen patients observed came to operation. Resection was performed five times, with three deaths; entero-anastomosis four times without appreciable improvement. In most instances the operation was performed too late. A favorable symptom for operation is mobility of the tumor while the patient is still strong. A symptom necessitating operation is stenosis of the intestine. Enterostomy and colostomy are only to be performed in case obstruction is imminent.

SOCIETY PROCEEDINGS.

THE NEW YORK ACADEMY OF MEDICINE.—SECTION ON MEDICINE.

Stated Meeting, Held December 19, 1899.

Louis Fougères Bishop, M.D., Chairman.

Heart Sounds.—Dr. Lewis A. Conner read a paper on the relative intensity of the second sounds at the base of the heart, that had been written by Dr. Sarah R. Creighton. Practically all the text-books thus far have taught that the second sound of the heart at the pulmonary cartilage is less in intensity than that at the aortic cartilage. The theoretic explanation was supposed to be that as the tension in the systemic circulation is much higher than that in the pulmonary circulation, the snap of the aortic valve is sharper and more audible than that of the pulmonary valves. Professor Gerhardt of Berlin alone teaches that the sounds of the aortic and pulmonary valves are of equal intensity. Holt says that in children, at least, the pulmonary sound is more intense than the aortic. Years ago Vierordt demonstrated, by pasting pieces of rubber adhesive plaster over both the pulmonary and aortic areas until the sounds at each were obscured, that the pulmonary sound was practically always more intense than the aortic. It is only after the age of forty that the aortic sound becomes the more intense of the two. Mueller repeated Vierordt's observations, but did not get the same result. Schryver, however, who worked with Mueller, confirmed Vierordt's observation. The subject deserves further careful investigation.

In a thousand patients in Dr. R. Cabot's clinic, all of them without heart lesions, 291 had the pulmonic sound more intense than the aortic. In 233 the sounds were equal, while in 476 the aortic sound was more intense. Under ten years of age, 90 per cent. had accentuation of the pulmonic sound; between ten and twenty over 60 per cent; between twenty and thirty, about 33 per cent; between thirty and forty, only 13 per cent; between forty and fifty, 14 per cent. The accentuation of the aortic sound becomes more marked with each decade of life. While most of the persons were under treatment for some affection or other all of them could walk to the clinic and were in reasonably good health. Many were assistants and friends accompanying patients. In children, according to Rotch, the lungs are not fully expanded until the fifth or sixth year, or perhaps, even later. It is probable that this fact has something to do with the accentuation of the pulmonic second sound so constantly found during the first decade of life.

Conclusions.—Pulmonary accentuation is invariable in childhood, is frequent in youth, becomes about equal in intensity with the aortic sound between twenty and thirty years of age, while after this aortic accentuation is the rule. It is evident that if the pulmonary accentuation is to be judged in any given case it cannot be decided by comparison with the aortic sound, but the criterion must be the memory of a normal sound.

Accentuation of Pulmonary Sound.—Dr. Emily Lewis said that the accentuation of the pulmonary second sound in children is only apparent. During infancy and adolescence the heart hangs more vertically in the thorax and so the pulmonary valves are much nearer the pulmonary cartilage than are the aortic valves to the corresponding cartilages. This has been proven by actual observation in Simonton's frozen sections on the other side. In addition these sections show that while the left pleura hardly comes to the left edge of the sternum the right pleura comes well over to the median line. The pulmonary valves are much less covered by pleura than are the aortic valves, and consequently the sound made by the closure of the valves is heard more distinctly. Percussion shows that the heart in children is more to the left of the sternum than it is in the

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adult and relative heart dulness on this side of the sternum, even above the third rib, is not uncommon. A certain number of the patients examined by Dr. Creighton were suffering from anemia and in these cases it is almost always the rule to find an accentuation of the second pulmonary sound. This would undoubtedly prove a source of error in the statistics and somewhat lessen the force of the conclusion that even in young people the second pulmonary sound is always more intense than the corresponding aortic sound.

Dr. J. K. Crook pointed out that the pulmonary second sound is much more responsive to alterations in the pulmonary circulation than the aortic sound is to changes in the systemic circulation. Even exercise and excitement affect the pulmonary sound more than they do the aortic. The excitement of a simple medical examination is often sufficient to cause quite a variation in the intensity of the pulmonary second sound. The second sound as heard in the pulmonary area is of great prognostic value in lobar pneumonia, so that the discussion as to its exact intensity in normal conditions is calculated to be of the greatest value. In pneumonia the pulmonary sound is always accentuated. When it begins to fail the prognosis is bad. The failure of the heart is noticeable here long before it can be noted in the pulse, or in the sounds of the heart as heard at the apex.

Dr. Conner, in closing the discussion, said in answer to a question as to the method employed by Dr. Creighton in determining the intensity of the heart sound, that she first applied layers of filtered paper in a series of cases until the heart sounds were obscured. She followed this method until she had been able to convince herself that she could without this aid determine with sufficient accuracy for statistical purposes, the relative intensity of aortic and pulmonary second sounds.

Pericardotomy.—Dr. Morris Manges reported a case in which after the aspiration of 18 ounces of pus from the pericardial sac some forty ounces more had been removed by open incision under local anesthesia with eucaine. The operation was performed by Dr. Howard Lillienthal. Recovery had been complete and in six weeks the patient was able to leave the hospital. As the result of the operation Dr. Manges demonstrated that the patient had an adhesion of the pericardium and the heart with the scar tissues above so that at each systole there was a retraction of the overlying tissues. In addition to this there was the pulsus paradoxus, that is, a cessation of the pulse when the patient took a long breath. This pointed to the fact that adhesions of the pleura and pericardium existed which when the pleuræ were fully distended interfered somewhat with the heart's action. In this case there had been a tri-lobar pneumonia prior to development of the purulent pericarditis, the pus of which contained a pure culture of the pneumococcus. Two lobes of the right lung and the lower lobe of the left lung were affected. The prognosis in cases of bilateral pneumonia is usually considered very serious. Statistics seem to show that the prognosis is not as unfavorable as has been thought. During the last ten years at Mt. Sinai Hospital, New York, there have been 58 cases of bilateral pneumonia. Of these only 15 (26 per cent.) proved fatal.

Pericarditis in Pneumonia.—In 500 cases of pneumonia under treatment at Mt. Sinai Hospital, pericarditis developed as a complication in 11 cases. Of these 11 cases 5 died, a mortality of 45 per cent. It seems clear that all of the cases of pericarditis which develop during pneumonia were due to the pneumococcus. It is probable, also, that most of the cases of so-called spontaneous paricarditis are really due to an invasion of this same micro-organism which in some manner finds its way from the pulmonary passages into the pericardial sac, where the conditions are very favorable for its virulent growth. Under these circumstances, as on the meninges, it is always a pus-producing micro-organism. Pyopericarditis occurs especially as a complication of acute rheumatism, of pyemia and of osteomyelitis. One case of purulent pericarditis following a stab wound has been reported in which the only micro-organism that could be demonstrated in the pus was the colon bacillus. It is probable that pericarditis during pneumonia is often overlooked. The conditions around the heart, when the left lung is affected, are such as to obscure the most important sign of pericarditis, *viz.*, the increase of heart dulness. The to-and-fro murmur of the pericardial friction may last but a few hours and so never be present when a physical examination is being made.

Operation for Purulent Pericarditis.—Just as soon as it is established that pus is present pericardotomy should be done. All the reported cases in which aspiration alone was deemed sufficient for the removal of a purulent exudate have terminated fatally. Out of 35 cases of pyopericarditis operated on by Roberts, only 20 died. Of these 10 were in a distinctly septic condition before the operation was done, so that only 10 less than 30 per cent. died after operation. It is surprising how much pus may be removed from a pericardial sac. Fifty ounces, as in this case, seems a large amount, but the reports of other cases have shown even greater quantities. Eight pounds was removed in one case, a gallon in another, sixty-six ounces in still another, while ten liters was removed in a case recently reported in France. Notwithstanding such large quantities of pus the patients have a reasonable show for their lives if the open operation is fearlessly done.

Seventy Ounces of Pus from Pericardium.—Dr. Lewis A. Conner reported a case in which pericarditis developed after a severe pneumonia, and aspiration showed the presence of a purulent effusion. Thirty ounces of the fluid were removed by aspiration, and as the symptoms did not improve, the patient being in an extremely bad condition, Dr. Stimson operated under local anesthesia and removed nearly 40 ounces more. The patient's condition at once improved and the

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alarming acute symptoms disappeared. The right pleura extended beyond the sternum, owing doubtless to the compensatory hypertrophy of the right lung, because of the pneumonia in the left. Despite the most careful precautions the pleura was slightly incised. It was at once carefully closed, but probably became infected, and the patient died of a purulent pneumonia a few days later.

Dr. Alfred Meyer asked if there was not some question in these cases of very large purulent collections, of an abscess in the connective tissue between the lobes of the lungs. There is ample room in this location for a large quantity of pus, and these metapneumonias are more common than is usually supposed. Their interference with heart action may lead to the diagnosis of pericarditis and the dislocation of the heart may cause the surgeon to incise them under the impression that he is incising the pericardial sac.

Premature Burial.—Dr. H. L. Garrigues read a paper on this subject which will appear in a later number of the MEDICAL NEWS.

M. Emile Camis of Paris then demonstrated his patented apparatus for the prevention of premature burial. Its important features are these: In the coffin-lid a valvular opening is made. Through this an iron rod with a ball on its end is passed, the ball being placed at about half an inch or less above the body of the person in the coffin. The other end of the rod is connected by a spring with a bell and a signal ball. The whole apparatus is enclosed and is thoroughly air-tight, and once it is closed it can only be worked from the coffin. A slight touch on the ball within the coffin is sufficient to ring the alarm bell for half an hour and to throw the brass signal ball up into the air, where it can be seen from a distance. At the same time, air and light are admitted into the coffin. If a supposedly dead person should revive, these arrangements would be sufficient to protect him from suffocation, the light would reassure him, and the alarm and signal ball would bring him immediate assistance. At the end of three weeks, or less if deemed advisable, the apparatus may be lifted out of the grave, the valve in the coffin-lid closes automatically, and the hole in the grave filled. The whole apparatus may be sterilized. It costs from $15 to $20, and may be used a number of times. While in use it is hermetically sealed.

NEW YORK ACADEMY OF MEDICINE—SECTION ON PEDIATRICS.

Stated Meeting, Held December 14, 1899.

Henry Koplik, M.D., Chairman.

Ichthyosis and the Thyroid.—Dr. Grieg presented a child, born of Bohemian parents, which had recently been under treatment for this disease in Mount Sinai Hospital. As in all such cases, the condition is worse in cold weather. The child presents noticeable anomalies in addition to the parchment-like induration of the skin. There is slight deformity of the mouth and ears and the peripheral circulation is interfered with so that the child's extremities are always cold. The thyroid gland can scarcely be felt.

In the discussion of the case, Dr. Jacobi said that the skin not being horny and being freely movable over the scant subcutaneous tissue, it was evidently a mild case of ichthyosis. In all probability the condition had originally been one of inflammation with destruction of the elastic fibers and of exaggeration of the normally copious secretions of sebum during the second half of intra-uterine life. Sebum thickened by epidermal cells and foreign material causes the scales and occasional warts and fissures seen in these cases. A few have been studied in connection with the thyroid in some instances and the extract of that gland has been tried as a remedy. In this case the thyroid is distinctly smaller than normal—so much so that the tracheal rings can be felt all the way down to the sternum, but a persistent thymus also seems to be present. When the child sits up straight there is a slight dulness of the percussion note over the upper part of the sterum. When the child is made to lean forward and percussion is continued the dulness becomes much more marked and extends to each side of the sternum. Although the child is eleven years old there seems no doubt but that the thymus gland still persists.

Persistent Thymus and Its Significance.—Dr. Jacobi said that during the last two or three years his attention had been called much more often than usual to the question of the possibility of diagnosticating a persistent thymus during life. Some years ago he saw a child who was suffocating. The case terminated fatally before anything could be done for it. The thymus was apparently not enlarged. At autopsy it was found to be very large. The case was probably one of those in which a sudden enlargement of the hypertrophied thymus causes a fatal issue. In many cases a persistent thymus may be diagnosticated if the child leans over while percussion is made. With reference to the etiological connection between this enlarged thymus and the ichthyosis nothing can be said with any assurance. It is possible that there is merely a coincidence in the two anomalies, ichthyosis on one hand and small thyroid with large thymus on the other.

Thymus Medication.—In a case of pseudo-hypertrophic muscular dystrophy extract of thymus gland was administered, at first in one-grain doses, then in two, three, four, and five respectively. Absolutely no effect was produced. There was no tachycardia, no flushing, no restlessness, no change in appetite or in the general condition. Then ten and then fifteen grains were given three times a day, also without producing any effect. Then, lest there should have been any deterioration in the preparation, fresh thyroid was ordered direct from the manufacturer and used in thirty and forty grain doses, but absolutely with-

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out effect. Thymus medication was then abandoned.

With regard to the treatment of ichthyosis, it should be noted that there is always a thickening of the epidermis in these cases which can be gotten rid of to a great extent by a continuous bath. If the child be kept in a warm bath, with or without spirits of soap, for half a day or longer, the skin tissues will become pliant and soft once more and resume a healthy appearance. This treatment should be repeated several times. There is an absence of oil in the cutaneous tissues in ichthyosis and this is best replaced by lanolin inunctions.

Acute Intussusception.—Dr. Fred Kammerer considers that intussusception is nearly always a surgical disease and that its mortality can be best reduced by a recognition of this fact. As to the use of injections of water in order to reduce the intussusception, the greatest care must be taken not to use too great pressure. With a pressure of five feet of water cracks have been produced in the serous coat of a perfectly healthy intestine. It must be remembered in a case intussusception that the intestine is not healthy. There are a number of cases in the literature in which rupture of the intestine has been produced by too great pressure during injection which had been undertaken to reduce the intussusception. There are certainly a number of other cases which have not been reported. The use of injections should be discouraged after the first twenty-four hours because, as a rule, changes have taken place in the bowel during this time which would almost inevitably lead to infection of the peritoneum, even if the intussusception were overcome. As to the quantity of water that may be used in injection no definite rule can be given as the size of the intestine varies so much in different cases. It is certain that the hydrostatic pressure should not be allowed to exceed that produced by a height of three or four feet. Barker, in fifteen cases on which he operated, had tried preliminary reduction of the intussusception by water pressure eight times. In six his efforts seemed at first successful, but they proved not to be when the parts were examined after laparotomy. When the water injection is tried it should be done as soon as possible after the diagnosis is made and after complete anesthesia. The water should be warm. After a fair, unsuccessful, trial laparotomy should be performed at once. If this were done in all cases the mortality after operation would be very much reduced. As it is the delay after diagnosis and after the failure of injections leads to serious depression of the patient and makes the result of operation much more doubtful.

Operative Technic.—It is better not to exert any traction or just as little as possible in the reduction of the intussusception. Pressure exerted just above the apex of the intussusception forces it out very effectively. As a rule, after reduction, it is not necessary to do anything to prevent recurrence. Recurrences are not frequent after laparotomy. Their frequency under other forms of treatment is really due to the fact that reduction is never complete and so relapse is easy. When the intussusception is irreducible a total or partial resection is indicated. The mortality in complete resection has been very unsatisfactory. It is only recently that Kocher has reported success in five cases of complete resection and Eiselsberg in four cases of the same kind. Despite the prevalent notion that children do not stand major operations well, the result of operative treatment for intussusception shows the contrary. Barker, who has had a very large experience in this matter, says they stand these operations better than adults. As a rule it is easy to control hemorrhage and the shock is not so great as in adults.

Mortality of Acute Intussusception.—Dr. Gibson presented a table containing a report of 187 cases of acute intussusception that had been under treatment during the last ten years. Statistics were limited to ten years because the present technic has prevailed during this time. The total mortality was 51 per cent. The noteworthy feature was that even on the first day the intussusception in some was found to be irreducible. The indication therefore was to operate early. The longer the delay the greater was the increase of mortality and of irreducibility. Complete resection for irreducible cases gave an extremely unfavorable prognosis. Eiselsberg's cases, which have been quoted, were really not cases of acute but of chronic intussusception. As to Kocher's cases it is not clear that they were done for acute conditions.

Dr. Frederick Holme Wiggin said that some years ago he assisted Dr. J. Lewis Smith in the treatment of some cases of intussusception by injection. There seemed no doubt in his mind then that it would have been less trying to the patient to have done a laparotomy. Farther study of the question has shown him that while the injection is much more dangerous it is much less effective. The success of the injection is always problematical and seeming cure may prove eminently fallacious and precious time is lost. It seems evident now that laparotomy should be done as soon as the diagnosis of intussusception is made. Children stand laparotomy well and the operation can be done in fifteen minutes or even less.

Early Laparotomy.—Dr. Willy Meyer said that early abdominal section is the proper indication. If it were known with certainty what could be accomplished by injections and if delay were not dangerous, the question of injection might be seriously considered. Ileocecal intussusception is the most frequent form of the affection, and this, it is generally conceded, is not affected by injections at all. In a recent case of operation for intussusception, Dr. Meyer failed to assure himself that the bladder was empty before making the abdominal incision. The organ proved to be full of urine and extended up to the umbilicus and absolutely precluded the possibility of getting at the affected intestine. The operation

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had to be delayed on this account. This is a complication that it is well to remember.

In many cases of chronic intussusception it will be found that malignant disease of the intestine caused the paralysis of peristalsis which resulted in the intussusception. In a recent case in which operation was performed with apparent success, the patient did not regain health and strength. He was sent to the country and returned much worse. Suspicion of malignant discase was aroused and the specimen which had been preserved was opened and proved to have a round-celled sarcoma for its nucleus. The patient died from recurrence.

Injection Methods.—Dr. Jacobi said that too much had been said about immediate operation. In our day superfluous operations go unpunished, thanks to clean hands, knives and wounds, and so it is easy to say, operate at once! Not a few unnecessary operations have been done for intussusception. There is no doubt that many cases can be cured by injection. For this purpose the water should never be more than from twelve to eighteen inches above the patient. Six years ago in discussing this matter before a meeting of the Academy some one suggested that the pressure of fourteen feet of water should be employed. This was manifestly a serious mistake of a gentleman who applied the hydrostatic laws of iron pipes to the human gut. The patient's head should be down and the hips well up and complete anesthesia by chloroform should be obtained. Warm water should always be used. While the water is slowly flowing in the anus should be closed and the abdomen gently manipulated. Sometimes the first irrigation proves successful; then opium should be given to prevent peristalsis and a relapse which is quite frequent. If a single injection proves unsuccessful it should be repeated three or four times at a couple of hours interval. If at the end of a half a day there is no relief operation should be performed.

Dr. Kerley reported two cases in which he had succeeded in effecting a cure by injections, the source of the water not being more than two feet above the patient. Complete anesthesia is necessary for success and the abdomen should be gently manipulated. This procedure may be continued for thirty minutes and then, after an interval of a couple of hours, the anesthesia and manipulations may be repeated once. After this operation should be done.

Recurrence.—Dr. Koplik said that he had recently seen a case in which the reason for seeming recurrences in certain cases of intussusception was very well illustrated. In the morning the patient had had all the symptoms and these had been relieved by injection. At three in the afternoon there was a recurrence of the tumor and of the symptoms. Relief was once more afforded by injections. The rectal tube was then left in the hope that it would help to prevent recurrence by relieving the intestine of any gas that might be present. The symptoms, however, recurred and the patient died. At autopsy it was found that the caput coli and the ascending colon had been inverted into the transverse colon. These had been reduced, but the ileocecal intussusception, the commencement of the process and the important element in it, had not been affected by the injection. As a matter of fact these cases of ileocecal invagination cannot be cured by injection.

NEW YORK COUNTY MEDICAL ASSOCIATION.

Stated Meeting, Held December 18, 1899.

The President, Frederick Holme Wiggin, M. D., in the Chair:

Alcoholic Cirrhosis in a Baby.—Dr. R. Abraham presented a baby sixteen months of age in whom some six weeks ago marked ascites developed. On percussion and palpitation the liver seemed to be enlarged. The amount of fluid in the peritoneal cavity became so large that it interfered very seriously with the child's respiration. It was removed by tapping and then there was no doubt of the existence of an enlarged liver. The history of the child was carefully inquired into and it was found that from about six months of age it had been given beer very freely. There seems no doubt then that the affection of the liver is a hypertrophic cirrhosis due to alcohol.

Dr. Illoway said that in a certain number of cases liver affections develop in children to whom alcoholic stimulants in one form or another had been given rather freely. The affection of the liver seems to be dependent much more on beer than on other forms of alcoholic drinks. While it is by no means frequent it occurred often enough to make it a fit subject for warning to parents.

Cystitis.—Dr. Raymond Guiteras read a paper in which he discussed the present position of medical men with regard to this important subject. The three important symptoms are pain, frequency of urination, and pus in the urine. All three of the symptoms may not be present in every case, but where one of them is absent it is well to leave the diagnosis of cystitis an open question until a more careful study of the case has been made. An irritable bladder is often diagnosticated as cystitis, or the presence of irritating urine may lead to the suspicion of bladder trouble, when the real affection is in the kidneys. Acute cystitis is usually due to gonorrhea and develops in the third or fourth week of that disease, or after instrumentation for posterior urethritis. It must be borne in mind that an affection of the posterior urethra gives practically all the symptoms of cystitis. This may develop after horseback-riding or excessive bicycle riding, or as the result of exposure to cold.

Differential Diagnosis.—The various conditions around the neck of the bladder which simulate cystitis, namely posterior urethritis, prostatitis and seminal vesiculitis, can be diagnosticated with reasonable certainty. For this the three

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glass test is the best. In posterior urethritis there will always be less pus in the third glass and most pus in the first glass in addition to some urethral shreds. In cystitis there is no fever. Guyon says that when fever is present there is always a complication and not a simple cystitis. In pathologic conditions of the prostrate there is pain in the rectum, especially during stool and at times even when sitting down. Rectal examination discloses enlargement of the prostate and very often thickening around it, with considerable tenderness. Seminal vesiculitis may also be detected by rectal examination and by thickening of the tissues in the neighborhood of the seminal vesicles. Chronic cystitis is always secondary. Germs that are present in the urine produce a pathologic condition of the bladder walls when predisposing causes are present. Any irritant that will cause hyperemia of the bladder walls is apt to produce this condition. Cantharides, alcohol, the hyperemia of excessive sexual indulgence, the irritation of a foreign body such as a calculus, or the presence of tubercle in the vesical tissues act in this manner.

Differentiation from Kidney Disease.—Chronic cystitis is often diagnosticated when really the pathologic condition present is in the kidney. The points of differentiation are: Almost constant presence of pain in the loin when the kidneys are affected, the tenderness on palpation in this region and the enlargement of the organ which can be felt on bimanual examination. Kidney affection when it leads to the secretion of irritating urine may cause frequent urination, but this symptom is more distinctive of bladder trouble and when it is accompanied by pain behind the pubis the affection is almost surely in the bladder. In pyelitis the urine is always acid. In cystitis the urine is always alkaline. In kidney trouble corpuscles are more degenerated than when the purulent process is in the bladder, and more epithelial cells are found to be present. When the affection is in the kidney casts of blood and pus and hyaline casts containing granular detritus are found. Bladder irritability may be diagnosticated from chronic cystitis. The cystoscope is important for the diagnosis of doubtful bladder conditions. In chronic cystitis it very clearly shows the presence of the thickened, gelatinous-looking bladder wall, with streamers of muco-pus here and there and occasional red patches of hyperemia, if the pathologic condition has existed for some time. In very chronic cases ulcers will be noted with whitish, elevated, gelatinous edges and the floor of the ulcer hyperemic, or covered here and there with pus. If tumor or stone is present it can be seen and the character of the tumor may be determined, whether malignant, benign, sessile or pedunculated.

Treatment of Acute Cystitis.—The most important point in the treatment of acute cystitis is rest. The next is hot sitz baths. These determine the blood to the surface and lessen the acuity of the process within. They should be taken twice a day. Great relief is often afforded by hot rectal injections. The urine should be made unirritating by alkaline diluents. The antiseptics, such as the benzoates and salicylates, often give great relief by changing the reaction of the urine and making the pathologic process less acute. The antispasmodics, belladonna and hyoscyamus, should be administered if needed, and where the local tenesmus is very great they should be given by suppository. Irrigation by the Janet method with permanganate of potash, beginning with a solution of 1-4000 and increasing the strength 1-1000, is often very effective. Solutions stronger than this should not be used. Where the permanganate is not effective, nitrate of silver should be used, beginning with a 1-16,000 solution and gradually increasing its strength.

Treatment of Chronic Cystitis.—Chronic cystitis may be benefited even when its cause cannot be removed. Antiseptics and antispasmodics do a great deal of good. Irrigations are often of the greatest service. While in an acute cystitis no instrument should be passed into the bladder, in chronic conditions this is not contraindicated. Where ammoniacal urine exists the use of urotropine, seven to ten grains three times a day, sometimes does away with the necessity for irrigation. There is nothing to equal it in its effect on the symptoms in these cases. Where stricture and enlarged prostate exist they must be treated directly. Slight strictures should be stretched; tighter strictures should be cut with an Otis or Maisonneuve urethrotome if they are in the anterior urethra; if in the deep urethra an external urethrotomy should be done. For slight strictures a soft rubber catheter should be used to draw the urine. If this does not pass, then a woven catheter should be employed. For enlarged prostate resection of the vas deferens and castration are not used at the present time. Very large and hard prostates, the door-knob variety, should be enucleated. The operation is easy as the fibrous tissue of the prostate can be easily shelled out of its capsule. Bottini's method should be used in small enlargements of the prostate where the middle lobe mainly produces the obstruction to urination. Enucleation is very difficult in these conditions. Tubercular cystitis should be treated locally, but general treatment should be simultaneously employed.

Cystitis in Women.—Dr. A. J. C. Skene of Brooklyn said that the treatment of cystitis in women does not differ from that of the same condition in men. Preventive treatment is, however, much more important in women than in men. The etiology is very different in the two sexes. In women cystitis is very often due to some form of infection from without. After parturition and surgical operations, when catheterization has been necessary, it frequently happens that cystitis develops. Formerly this was considered to be the result of the use of unclean instruments, but the most sedulous care in the cleansing of instruments will not do as much to prevent cystitis as the use of a soft catheter. Of

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late years he has found that the use of a soft catheter is followed by much less cystitis. Saleswomen and those who stand for a long time are more liable to cystitis than are others. Movement on the feet does not seem to give much occasion for the development of the affection. Examination with the endoscope will sometimes show ecchymotic spots in these cases. They improve under irrigation and rest, but if the cystitis continues ulcers develop and the cases become very chronic. Vaginal cystotomy is not of much value unless treatment is carefully carried out at the same time. In many of these cases in which after thorough drainage of the bladder through the vagina for weeks the woman is allowed to get up, the scar tissue breaks down, ulceration sets in and the condition is no better, and may be worse than before. In the treatment of these conditions by irrigation borax has been found better than boracic acid. It must be remembered that the bladder refuses to distend rapidly; therefore the injection should be made slowly. It should be rather instillation than injection. In emptying the bladder it should not be allowed to contract down upon the end of the catheter or an injury to the mucous membrane will almost surely be produced. In using nitrate of silver the solution should not be stronger than one grain to the ounce. It is better to repeat the injection than to increase the strength of the solution. Ulceration will not be relieved by these mild applications. The endoscope should be used and applications should be made directly to the ulcerated patches. For this purpose nitrate of silver, half a dram to the ounce, or pure carbolic acid should be used, or the actual cautery may be employed if the operator is skillful in its use. Whatever method of cauterization is used it should be extremely local in its effect and should touch only the ulcerated portions.

Causes of Cystitis.—Dr. Fuller said that in women the shortness of the urethra frequently leads to infection. Normally the urethral flora is abundant and not infrequently finds its way into the bladder. Auto-infection does not, however, take place unless there is trauma. In general, the individual is a very important factor in both sexes. The germs may pass through a healthy kidney and remain for a time in the bladder without producing any serious symptoms, but if there is a pathologic condition of the bladder infection may take place. In addition to the cystitis ordinarily described there is a severe type of the affection which affects not only the mucous membrane, but also the muscular coats and the peritoneum, as well as certain structures in the neighborhood of the bladder. This pericystitis has been especially described by the Necker school in Paris. The bladder is often so bound down by adhesions that it is impossible to inject fluid into it even under ether. The prognosis of these cases is very bad for practically nothing can be done for them.

Technic of Injections.—Dr. W. K. Otis said there is distinct danger of mistaking kidney disease for bladder disease. Often in cases of tuberculosis or stone in the kidney, operations have been done on the bladder although absolutely no pathologic condition existed in that viscus. In irrigation the catheter should be introduced just beyond the external sphincter but not beyond the internal sphincter. If the catheter is pushed farther on into the bladder the injection fluid does not touch the neck of the bladder where it is most needed, but flows out again through the eye of the catheter. The best position for irrigation is the upright one. Thus the bladder can be washed out thoroughly. The double current catheters should not be used, for the fluid takes the shortest route out through the catheter and all parts of the bladder surface are not touched by the fluid.

Sterilization of Catheters.—Dr. Guiteras, in closing the discussion, said that the soft catheter is of course the best one to use, but it is often impossible to pass it. The woven catheter is much more satisfactory in this respect, but the difficulty thus far has been to make it sterile. Recent experiments at the Post-Graduate Medical School and Hospital show that the Schering and Glatz sterilizer producing formaldehyde gas kills the germs on a woven catheter without injuring the instrument.

Syphilis of the Nervous System.—Dr. W. Leszynsky then read a paper on this subject. He said that in every nervous case it is important to look for syphilis in the history. It must also be borne in mind that nervous disease may exist in a syphilitic patient without its necessarily being syphilitic in origin. There is an old tradition that syphilitic nervous disease has a favorable prognosis. Although such a prognosis is more favorable than that for other nervous diseases, it is unjustifiable to think that syphilitic nervous disease practically always gets better. Syphilis itself is incurable and yet most amenable to treatment. This looks like a paradox, but is eminently true. Early treatment is extremely effective and sometimes prevents the appearance of tertiary symptoms. Cases of syphilis are sometimes so mild however, that they are overlooked and it is especially in these that after-effects are noticed in the nervous system. Where nervous disease is evidently syphilitic in origin mercury and the iodides should be given for two to three months. In exudative conditions such treatment is of value, whereas in degenerative conditions harmful results may follow. Tabes and general paralysis while due to syphilis in certain cases, are practically never helped by mercury and the iodides. Certain symptoms of these diseases are even made worse by these drugs. Optic atrophy certainly progresses more rapidly under the use of mercury.

Treatment of Syphilides.—

℞ Hydrargyri ..... gr. lxxx
Lanolini .....3 iiss
Pulv. Althæ.....q. s.

M. Ft. pill No. C. Sig. One pill twice a day for one month.—*Anuschat.*

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THE MEDICAL NEWS.

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ORIGINAL ARTICLES.

PRURITUS ANI.[1]

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THE term pruritus ani has for the scientific physician only a vague significance, but for its victims it is portentious with evil. To the former it means an indefinite symptom referable to divers and sundry pathological causes, sometimes to none, but to the patient it means an agony besides which pain would be pleasure.

The disease is marked by itching of greater or less degree about the anus. Its severity is governed largely by the nervous condition of the patient. I do not mean by this that it is worse in hyperesthetic individuals, but on the contrary it is generally so in cases of dysesthesia or hypopselaphesia, patients who bear pain well and whose sensations of touch are below normal. Some are only annoyed slightly after exercise or overheating and are relieved by almost any application to the parts; in others the itching is so acute and exacting that they must scratch under whatever circumstances and thus they are debarred from society lest their infirmity cause offense. Some patients never suffer in the day-time but as soon as they are in bed and just about to fall asleep the attacks come on and continue until morning. These are the most distressing cases and the most severe. With them it is more than an itching; it is a stinging, burning, aggravating pain which scratching does not relieve, and to which applications of water, hot enough to blister, are absolutely pleasant. It seems just within the anus but when the patient introduces the finger or pile pipe to relieve it, the sensation always recedes to just above the point of touch. Sleep is impossible until the patient, worn and exhausted from the vigil, dozes off about dawn and awakes after a few hours rested somewhat but not refreshed. They get through the day fairly comfortably so far as the itching is concerned but dreading the return of night and its inevitable suffering. The wan and exhausted look upon the faces of chronic sufferers from pruritus resembles much that of the morphine habitué who has been deprived of his only solace and the desperate frame of mind which develops is alarming to the friends and physician. I have never known a case of suicide from this cause but having heard it threatened so often I can not but believe that some men have taken their lives rather than continue in their torture. The disease is generally more or less chronic when the rectal specialist sees it, as it begins insidiously; the suffering is not great at first and careful examination of the parts by touch and the mirror reveals nothing abnormal to the patient. He takes it as a sort of joke at first and speaks lightly and in contempt of it. It reminded one of his first night on our great western prairies. When the camp fires had died down and he had just dropped to sleep the noise of a thousand howling wolves began. He awoke with horror and lay all night with gun in hand expecting surely to be devoured, but determined to sell his life as dearly as possible. But when the morning came all that he could see of this ravening pack was one poor lone coyote perched upon his earth hill and grinning from ear to ear. He expected after such a night of torture to find his anus in a terrible condition and was provoked to think he could suffer so much and have nothing to show for it.

Sudden changes of temperature, especially from cold to heat, aggravate the itching, as may also a change of climate as from inland to seashore. I have one patient who claims that he is always worse when near salt water. This statement must be taken *cum grano salis*, however, as his diet and habits are different there and at home. The itching may be subdued for quite a time and relighted by some article of diet or drink. Each case presents a problem in itself as to idiosyncrasies. The physical symptoms are very slight in the early stages of the disease, but after it has existed for a period they become more or less marked according to the etiological cause. I am not a believer in *pruritus ani essentialis*. The constitutional condition upon which the theory of this disease is founded I admit, and reckon it an important element; but I insist that there is always an exciting cause for the disturbance, and upon this cause will depend the physical appearance of the parts. If we discuss pruritus ani as a disease *per se* we must go into a description of all the various conditions which produce itching of the anus, such, for example, as eczema, moist, dry and marginatum, herpes, pediculi, erythema, fissure, prolapsus recti, hemorrhoids, urethral stricture, etc., etc. On the other hand, if we consider it simply a symptom or complication of these affections, as it really is, then it should be treated of under those diseases and our subject will have been annihilated, unless we evolve from our imagination a pruritus ani essentialis—a disease without a pathology, an effect without a cause. We are thus between the horns of a dilemma and it is somewhat difficult to extricate ourselves. It is the purpose of this paper to discuss those so-called cases of essential pruritus

[1] Read before the American Proctologic Society, Columbus, O., June, 1899.

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and evolve a little structure from the chaotic opinions concerning it. Those who speak of it as such, or as neuralgia, or as an affection, reflex or direct, of the lower end of the spinal cord, are logically led to the description of the physical condition of the parts as a result of the disease itself. They speak of the excoriation, the moist secretion, the dry scaly appearance, the hypertrophied mucous folds, the fissured mucocutaneous border and the depigmentation of the parts as the results of pruritus ani. It is true that the pruritus exists before these conditions are observable to the naked eye, but it is equally true that the itching is never very severe until one of these pathological conditions has developed. Such pathological changes may be well within the margin of the anus and hidden from the careless observer, but some morbid condition is always there when the pruritus is marked. The diseases which cause these physical changes in the parts we know full well, and these diseases occurring in the dysesthesic or hypopselaphesic patient, instead of causing pain, produce itching until the scratching and irritation of the parts develop actual pain. I propose to discuss these diseases and their influence in the production of pruritus in this paper and this leads us to the etiology of the disease.

Etiology.—I can but enumerate the many causes of pruritus ani as laid down by different authors. A discussion of them would involve the whole subject of rectal diseases. As an etiological factor many of them are problematical, but as most of them are patent to the most casual observer they should always be removed if possible in the course of treatment for pruritus. They are: Oxyuris vermicularis, constipation, impacted feces, hemorrhoids, fissure in ano, fistula in ano, ulceration of rectum or anus, neoplasms of the rectum, pediculi, parasites, erythema, eczema of various kinds, diseases of the crypts, herpes, stricture of the urethra, stone in the bladder, foreign bodies in the rectum, pregnancy, leucorrhea, gonorrhea, hepatitis, nephritis, neuralgia, diseases of the spinal cord and brain, rheumatism, uricemia, catarrhal diseases of the rectum, sigmoiditis, and colitis.

I have so frequently seen piles removed, fistulæ and fissures cured, pregnancy terminated, hepatic diseases get well, etc., and yet the pruritus remain that I have grown skeptical of most of them as etiological factors. In the last five causes, however, together with parasites and oxyurides, I have developed the most profound faith. As to the oxyurides little need be said at the present time. Their influence, the symptoms which they produce, and the methods of determining their presence are too familiar to be repeated.

Parasitic diseases are of more importance and require careful macroscopic and microscopic observation to determine their presence. Those which may give rise to pruritus are erythrasma, the various tinea, scabies and pediculi. It requires somewhat of a dermatological training to be able to diagnosticate and properly treat these diseases, and to those not trained in this branch of medicine the services of a specialist are of the utmost importance in doubtful and obstinate cases. When this form of disease exists we may run the whole gamut of parasiticides before we relieve our patients unless an accurate diagnosis is made at first. I must refer my readers to special works on dermatology for the study of this part of our subject, but I would urge a constant appreciation of the fact that these little animal and vegetable growths may be the exciting causes of the most intractable and severe pruritus. Moreover it must be borne in mind that the irritation produced by their presence and the consequent scratching may produce pathological changes in the parts identical with those produced by other diseases and thus a complication will arise demanding a combined therapeutic management.

Rheumatism and uricemia, if not identical, are intimately associated in the human economy. Gastro-intestinal, particularly colonic, fermentation is a most important element in both. It is often difficult to distinguish between rheumatic and lithic acid diatheses. Happily the same treatment is effectual in both. For some years past I have believed that these two conditions are potent causes in the production of pruritus ani, and the more I see and observe cases the more am I convinced of the constitutional element in their production. A large majority of my pruritus patients have suffered more or less from rheumatism or uricemic symptoms. The urine of these patients is generally loaded with uric acid or its derivatives and their distress is almost invariably in direct proportion to this condition. Errors or excesses in diet which produce increase of uric acid or intestinal fermentation are more than likely to bring on exaggerated attacks of pruritus, and when the constitutional derangement has been relieved the pruritus just as promptly subsides. I recall one case in which the indulgence in sweet wines, pastry, or excess of carbohydrate foods would bring on congestion, redness and itching about the anus in a few hours, and if the condition was not soon remedied this irritation, swelling and redness would spread like a prairie fire to the buttocks, scrotum, abdomen, and even to the face. But with all its dissemination the pruritus was the one constant and unbearable symptom. I could relate many similar cases, although perhaps less severe, but in all of them the same constitutional element existed and under proper treatment they recovered, whereas all the local applications in creation would have given temporary relief alone. Do not understand me to belittle local applications. They are our sheet anchors of success in that they relieve our patients' suffering while we treat the disease, but they are too often vaunted as specifics and alone depended on in the treatment of pruritus ani. The constitutional element in producing pruritus is an important fact and the more we recognize it the greater will be our success in treatment.

Catarrhal diseases of the anus, rectum, sigmoid and colon are the processes referred to when I said above that we knew the causes of the pathological changes about the anus in pruritus ani. We

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may discuss them together in relation to pruritus, although membranous colitis and sigmoiditis are distinct in their symptomatology. There are practically three kinds of this disease; the acute, the atrophic and the hypertrophic catarrh. The two latter may result from the first but, in general, patients with the chronic forms give a very indistinct history of having had the acute variety. I have discussed these diseases elsewhere in print and shall only here recall the physical changes which they produce and compare them with those found in pruritus ani. Before doing this, however, let me say that those who claim the severe and chronic types of pruritus ani to be without physical or pathological changes have certainly seen very few cases or have observed them superficially. All the chronic cases I have seen have presented very marked changes about the anus and this statement agrees with the opinion of Allingham and other noted specialists.

In the acute catarrh of the rectum there is very little manifestation of disease about the anus, until the secretive or suppurative stage begins. If this continues for a time the skin and mucocutaneous surfaces become moist, sodden, sometimes excoriated and inflamed, taking on the nature of a superficial cellulitis. The disease does not often assume such a serious phase and when it does pruritus is not so marked as actual pain. In the milder form heat, heaviness, aching in the sacrum and mild itching in the anus are its symptoms.

In the hypertrophic catarrh and membranous colitis the pathological condition with which we have to deal is hypertrophy of the mucous membrane and Lieberkuhn's follicles, attended with hypersecretion, exfoliation of the epithelium and septic infection. Perhaps the infection might be placed first. Pruritus is a symptom early in this disease and becomes more and more marked as the disease process approaches the sensitive margin of the anus and as the acrid secretions flow over, irritate and infect the parts. The appearance of the skin about the anus in the chronic state of this disease is moist, white, sodden, like a washerwoman's hands. The mucous membrane is swollen and edematous, the rugæ are more marked and the mucous folds hypertrophied. After some time the irritation, scratching and chafing of the parts develops an erythema, excoriation, or even ulceration. Together with these changes and the exfoliation of the epithelium of the skin comes the depigmentation of the parts, an appearance on which Allingham lays so much stress in pruritus. These are the changes in a greater or less degree which we find in many of our most annoying cases of pruritus and the reason they do not recover is that we treat them from below instead of from above where the root of the evil is.

The atrophic catarrh is exactly the opposite of the above. The glands are atrophied, the secretions deficient, the surfaces hot and dry and without normal lubrication. In consequence the stools are constipated, hard and lumpy, and the sphincter is generally contracted. The disease extends to the mucocutaneous border and this area becomes so dry and brittle that any distention of the parts by the feces or pulling apart of the buttocks causes numerous little cracks or fissures which are irritated by the touch of clothing or passing feces and thus set up the most intolerable itching. I have frequently produced these little cracks and set up the pruritus when showing the condition to my classes. These little fissures often run or begin well up above the anal margin and may develop into true fissures. They are easily overlooked and I truly believe that these are the nerve-wrecking cases in which so many observers say there is no pathological change or cause. There may be no change on the outside but just within the anus or even higher up the cause is almost surely to be found. These pathological changes are the ones which I have found most often in obstinate and obscure cases sent to me, and they tally remarkably with descriptions of pruritus ani by our best authors.

Aside from cases due to the specific causes mentioned above I believe all the cases of severe pruritus ani may be traced to one or the other of these conditions of rheumatic, uricemic, or catarrhal disease, and furthermore the proof of it lies in the fact that patients get well when treated in accordance with this pathogeny. But one will ask why, then, is it so much worse at night? I answer, for many reasons. Patients generally go to stool, bathe, rub, or scratch themselves before going to bed; heat or change of temperature always makes superficial irritation worse; the recumbent position brings the parts closer together; and the influence of night and quiet on the mind, making all the senses more acute, serves to make the patient more sensitive to the irritation.

Treatment.—For the scientific physician all treatment must be based upon his conception of the pathology of the case. To those who have followed me in this discussion I need say very little on this part of the subject. Remove the pathological or reflex cause, treat the disease and not the symptom. Pruritus ani is only a symptom. If operations are necessary to remove what you believe to be the cause, do them, but be careful in your prognoses as to permanent relief. Fissure, fistula, hemorrhoids, condylomata, may all be due to the same disease which causes the pruritus and they may be removed and yet the pruritus remain. As to the rheumatic and uricemic cases the text-books upon general medicine are safe guides in treatment. Nitrogenous diet, alkaline diuretics, salicylic compounds and hot baths compose the general routine of my treatment. The management of catarrhal diseases I have described in *Mathews Medical Quarterly*, 1894, and in the *New York Medical Journal*, 1898. I wish here to express my increasing faith in the use of the modified Kelly tubes, the long Wales bougies, the aqueous fluid extract of krameria and the strong solutions of argonine.

In the local treatment we have our means of relief while radical cure is being attained. Judgment and experience alone can guide us in the selection of a remedy. If our patients would bear

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with us long enough we would all find a remedy to relieve them by trying one after another of those recommended in the text-books. But it taxes our ingenuity to apply the right one at first. Some need stimulation, some need soothing. Hot water is generally acceptable, but sometimes cold is more so. Carbolic solutions, larkspur, black-wash, salicylic acid, chloral hydrate, chloride of chalk, extract of conium, extract of strammonium, camphor, cocoaine, tar, etc., etc., may all be of use in one form or another. I have learned largely to rely on a combination of carbolic acid, ten to twenty per cent., salicylic acid, two to ten per cent., boric acid, five per cent., glycerine or cold cream, ad. one hundred per cent. I have used ichthyol with great benefit and when there is pain at stool, conium and cocaine have rendered me much service. Since I have treated pruritus on the pathological theory detailed above for the past five or six years, I have not failed of complete and more or less permanent relief in any case. I have not found it necessary to curette the parts, apply the actual cautery, or still less to resort to the radical operation of dissecting away the parts that itch. I would say the diseased area but this would involve too much according to my theory. Having determined the type and variety of the disease producing pruritus, it is not difficult to manage, and in most cases we may confidently expect a radical cure.

THE GREAT DRAINAGE CANAL AT CHICAGO.

BY J. A. STEWART,
OF BOSTON.

PUBLIC attention has been called to the colossal enterprise in which Chicago has been engaged for the disposal of its sewage by the fact that the great construction is now completed. The water was permitted to flow through the sluice-gates of the great controlling works at Lockport, Ill., on January 17, and the canal was thus formally and officially opened.

The character and importance of this great sanitary enterprise are not fully apprehended. It is not a canal with locks to regulate the flow of water, but an open channel 160 feet wide at the bottom and 38 feet deep. The construction was begun in 1892. It has cost about $33,000,000 to date. Its purpose is to unite the south branch of the Chicago river to the Desplaines at Lockport, Ill., whence it will flow to the Mississippi river. All the sewage now emptying into Lake Michigan is to be intercepted. It will then be turned into the Chicago river. With it will pass a volume of 20,000 cubic feet of water from the lake. This will assist in producing a current. It will also dilute the sewage.

When first opened the canal is to discharge 10,000 cubic feet of water per second, which is about 5 per cent. of the amount now flowing through the Niagara river. The quantity of water to be discharged is to be fixed by the state legislature. This is done with a view to protecting the valley of the Illinois from contamination. When the population of Chicago shall exceed three millions, the quantity of the discharge is to be increased proportionately. The amount of the original outflow is very great. The engineers estimate that it will raise the low-water mark of the Mississippi one foot at St. Louis.

The contention on which some of the opposition which has arisen has been based, is that the Chicago river is inadequate to furnish the required amount of water with the velocity of current fixed by the Drainage Board. The objection is naturally not supported by the bold engineers of the undertaking. The achievement of such an immense enterprise, it is claimed, is made entirely feasible by the peculiar geography of the great lakes. While Michigan and Huron are practically on the same plane—about 580 feet above the sea—Lake Erie is only about 8 feet lower, and Lake Superior poses as an independent basin 20 feet above its sister-lakes. It is asserted by a high scientific authority that the basin of the lower three of the lakes is so delicately poised that only four feet of rock and two of gravel at Chicago prevent them from spilling over into the Mississippi Valley at high water. The rock bottom of the Niagara where it leaves Lake Erie is only 30 feet lower than the rock shelf which forms the barrier west of Chicago. It seems that there is an old glacial outlet into the Mississippi Valley, into which the drainage canal will now turn a portion of the water of the great lakes southward. The Chicago engineers appear, then, simply to be carrying out at great expense of time and labor an unutilized topographical plan. Nature herself seems to have had such an outlet in mind.

The peculiarly bold aspect of the scheme is seen in the fact that the promoters did not deem it necessary or even advisable to get the consent to their project of other parties whose interests might be affected by it. The whole enterprise has consequently been a radiantly litigious one from the beginning.

The channel's depth, as has been stated, is 38 feet. This gives a capacity for a depth of water of from 25 to 35 feet. The current will have a speed of one and one-fifth miles per hour. Either 300,000 or 600,000 cubic feet of water can be carried through it per minute. Experts have declared that this will permanently lower the level of the three lower lakes from 3 to 8 inches and cause a corresponding reduction of from 240 to 700 tons in the carrying capacity for the large vessels of the lakes. The question of the lowering of the lake level is undoubtedly an important one. A feasible remedy has been proposed, however. It involves the storing of water in Lake Superior and letting it down when needed. The present shallowness of all the Lake Erie harbors has made necessary the work of deepening the navigable channel two feet by the government in recent years, at a cost of two million dollars.

The inland cities south of Chicago, too, are naturally concerned as to the effect of the Chi-

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cago discharge on the Illinois river. The question of overflow has become an interesting one to dwellers along the river-banks.

Four results have been tabulated as the ends to be gained from the opening of the canal, *viz.*, (1) Protection of Chicago's water-supply from pollution; (2) purification of the Chicago river and its branches; (3) discharge of flood-waters without overflow; (4) disposal of all the sewage of Chicago without detriment to other communities. The first three points are conceded to have been achieved; but the fourth one has been of vital interest to the people of St. Louis. This is not surprising, since the discharge of the sewage of Chicago by the canal means a delivery into the Mississippi, from whence St. Louis draws its water-supply, at a point only forty-five miles above the city. This opposition culminated in a report by an investigating committee, which implied that Chicago is bound to purify the sewage before casting it upon the waters to contaminate the water-supply of a neighboring city. The report went so far as to urge that by the general laws of the United States, the pollution of interstate streams must be stopped, and that state and municipal regulations will demand the purification of public water-supplies under suspicion. A purification plant in connection with the Chicago works would cost about fifty million dollars, and three million dollars each year for maintenance; to construct which, it is pointed out, is asking a good deal even of Chicago. In view of the present condition of St Louis' drinking water, which is a murky and opaque beverage trustingly imbibed by the masses, it might seem pertinent on the part of Chicago to make the counter suggestion that, in its own interests as well as that of a neighboring city, St. Louis should install a filtration plant.

The fact that any gigantic cesspool, such as the Chicago river virtually constituted, is a menace not only to the health of the immediate community but also, by the laws of infection, its dangers are constantly being scattered far and wide, ought to facilitate any attempt to abolish it. Very little would be left of Chicago sewage by the time it reached St. Louis. The processes of dilution and evaporation have a distance of three hundred miles in which to perform their beneficent work. The scheme of the drainage canal, it is to be kept in mind, has a wider importance and significance than a purely local sanitary expedient. In its broadest conception, it assumes the dignity and power of a wide commercial enterprise in furnishing a navigable waterway which will not only satisfactorily dispose of all the water and waste of Chicago and all the cities along its banks, but also permit vessels to come down through it from Lake Michigan to the Gulf of Mexico. The Chicago engineers have foreseen the feasibility of diverting 15 or 20 per cent. of the water of the great lakes into the Illinois river, with locks to carry ships past the rapids that would be created. The legislature of Illinois, it seems, four years ago declared in favor of the construction of a trunk waterway through the State of such dimensions and capacity as to form a homogeneous part of a through route from the Atlantic seaboard to the Gulf of Mexico. The whole enterprise, it is seen, is surpassing in boldness. The drainage canal thus becomes the chief factor in a scheme for the improvement of internal navigation practically without precedent.

This is a plan not without interest to the people generally. And it is pleasant to think that while New York, Philadelphia and Boston have to pay enormous sums for pure water, Chicago is to have an abundant supply by simply pumping it through the mains from the big blue lake at its door.

EXPERIMENTAL RESEARCHES ON THE EFFECTS OF INCREASED BAROMETRIC PRESSURE AND OF FOREIGN BODIES IN THE PHARYNX, ESOPHAGUS, TRACHEA AND LARYNX.

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I. EFFECTS OF INCREASED BAROMETRIC PRESSURE.

Methods of Research.—The animals were all reduced to full surgical anesthesia by ether before the experiments were begun and were killed before recovery from it. Respiratory tracings were obtained by means of a rubber tambour, attached to a canvas band, encircling three-fourths of the circumference of the animal's chest. This energized a writing-style attached to an organ-key mechanism. Respiratory tracings were obtained very accurately. Blood pressure was recorded by means of a mercury manometer. The drums were revolved by a mechanism so made as to be capable of a variety of movements, ranging from one revolution in thirty minutes to eighteen revolutions per minute, so that any phase of any given tracing might be duly recorded. The following is a part of a rather extended research which enable us to estimate the reliable reduction with comparatively few experiments.

Preliminary Remarks.—On entering an atmosphere of increased barometric pressure most persons experience some peculiar symptoms, such as oppression, dizziness, occasional fainting, difficult breathing, very rapid pulse, etc. The phenomena observed in drowning suggested that some light might be thrown on the subject by experiments made along similar lines.

Protocols.—The following technic was employed in the experiments: The animals were placed under full surgical anesthesia, the trachea dissected out, and a cannula tied firmly into it; a heavy tubing was then tied on the cannula, and this was connected with a strong leather bellows, from which a large quantity of air might be suddenly or slowly driven into the lungs—that is to

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say, the intrabronchopulmonary pressure might be increased, as would be the case in increased barometric pressure. The blood pressure was taken in the carotid artery. The respirations were neglected, as they could express nothing in such experiments.

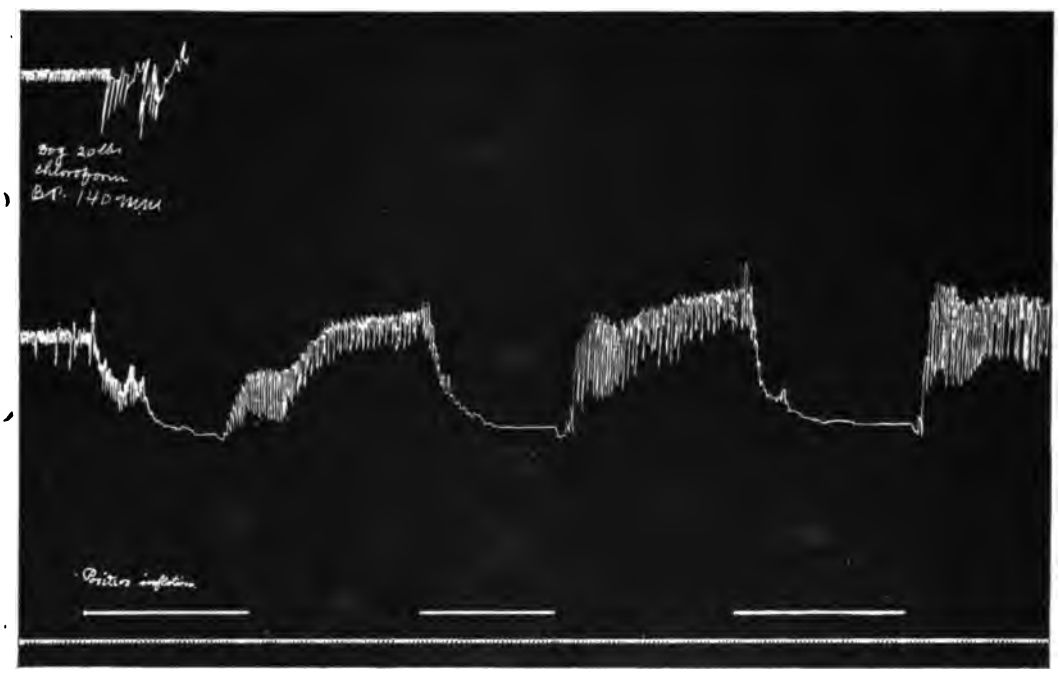
1. A fox terrier, weighing twenty pounds, in good condition, with an initial blood pressure of one hundred and forty-six millimeters, was subjected to the experiments as outlined. The bellows was suddenly emptied into the pulmonary tract of the dog, producing a very great immediate fall in the blood-pressure. The rubber tubing at the close of the injection of the air was clamped, the bellows refilled; then, again as the air was passing into the tube, it was unclamped, and more air forced into the lungs. In this manner the blood-pressure fell abruptly to the abscissa line. The animal was killed almost instantly thereby. An immediate autopsy showed the right heart to be engorged, the left heart empty.

2. A spaniel, weighing twenty-four pounds was subjected to an experiment similar to the preceding; the blood-pressure suffered a staggering fall, as before. In this instant the pressure at the first blast dropped almost to the abscissa line. On removing the clip and allowing the air to escape from the lungs, the blood-pressure leaped up very rapidly, and soon regained its normal height. This was several times repeated, so that there could be no doubt as to the striking effect of an increased intrathoracic pressure upon the circulation. The animal was then killed by again increasing the intrathoracic pressure so as to block the circulation through the lungs. The autopsy revealed conditions similar to those observed in the preceding case.

3. A bulldog, weighing forty pounds, was subjected to an experiment similar to the preceding, with practically the same results. The animal was killed almost instantly. Observations at the autopsy were similar to the preceding.

4. In a strong shepherd dog a control was made by several vigorous blasts from the bellows, producing collapse in the blood-pressure. The air was immediately allowed to escape, and the blood-pressure mounted up again to a point previously occupied. Then, passing a scalpel between the ribs and severing the descending vena cava, the blood gushed in torrents out of this vessel. The blood-pressure sank, but it sank more gradually than in the case of increased intrapulmonary pressure produced immediately before by the injection of the air.

Fig. 1.



Positive inflation of the lungs increasing the trachea-pulmonary pressure by means of a bellows.—Note the momentary rise in the blood-pressure, followed by an immediate staggering fall. The lower line indicates seconds.

5. A large St. Bernard was subjected to the same treatment as in the foregoing case. After producing the collapse in the blood-pressure by forcing air into the lungs and then allowing the blood-pressure to recover itself, the inferior vena cava was severed and the blood permitted to gush forth freely. A great fall in blood-pressure was produced, but this fall was not so sudden nor was the collapse so marked as in the experiment in forcing in air.

Summary of Experimental Evidence.—The evidence of these experiments and of the experiments on drowning tends to show that a sufficient increase in the intrapulmonary pressure may produce a collapse of the circulation. It robs the left heart directly of blood, and, therefore, causes a

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greater collapse than can be produced by severing either the superior or the inferior vena cava alone. Now, as a workman enters a tunnel under high barometric pressure the respiratory tract is subjected to an increase in pressure, and the immediate symptoms may be interpreted from this main

Fig. 2.

Read from left to right. The white lines below the blood-pressure indicate the length of time of the application of the force. The lower line indicates seconds. The fall in the blood-pressure was caused by forcing air into the trachea by means of a bellows. In each succeeding experiment the air was forced in more suddenly. Note the quick recovery in each instance when the bellows was released. The curves could be varied at will by applying varying degrees of force in the inflation.

fact. The dizziness, the difficult breathing, the soft, rapid pulse, all would be produced by a great fall in the blood-pressure. The respiratory symptoms may be produced by a sudden fall in the blood-pressure as well as diminished circulation of the blood, thereby diminishing the exchange of gas in the lungs, which, in itself, is sufficient to cause an increased respiratory action and produce the respiratory distress.

II. Foreign Bodies in the Pharynx and Esophagus.

Preliminary Remarks.—The symptoms produced by foreign bodies of considerable size lodged in the pharnyx and certain portions of the esophagus bear a close resemblance to those occasioned by the presence of foreign bodies in certain parts of the respiratory tract. Among the symptoms of choking may be mentioned cyanosis, asphyxia, collapse and slow pulse. These symptoms so closely resemble those produced by foreign bodies in the larynx that the one condition has been frequently mistaken for the other, and in many cases the differential diagnosis from the subjective symptoms alone has been quite impossible.

The following research was undertaken to attempt an explanation of these phenomena:

Protocols.—1. On a mongrel dog, weighing twenty-eight pounds, whose blood-pressure registered one hundred and thirty-four millimeters, under anesthesia, the following experiments were performed: (a) The esophagus was exposed by careful dissection, so as to avoid severing any of the nerves. This was then opened by a longitudinal slit in its middle, and the portions immediately above and below the slit were subjected to dilatation by means of a large bulb and also with a uterine dilator. Although the dilatation was forcible no effect upon blood-pressure was produced. It is doubtful whether the slight slowing of the respiration was a coincidence or an effect. (b) Then passing the instruments down to a point opposite the bifurcation of the trachea and producing there a similar dilatation, like observations were made. (c) The instruments were passed upward to a point opposite the larynx and dilatation was made; there was a slight rise in blood-pressure

Fig. 3.

Experiment on choking, by pressing a globular foreign body into the esophagus opposite the larynx.—Note the temporary inhibition of the respiration (upper tracing) and the staggering fall in the blood pressure (second tracing).

and a temporary arrest in respiration occurred, this temporary arrest being followed by slow respiratory efforts during the remainder of the dilatation. (d) The same experiments were repeated with similar results. Then passing the dilator down to the cardiac orifice of the esophagus and

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dilating this tube, there was produced a slight fall of blood-pressure, and the respirations were diminished in frequency. (e) On introducing from below upward the rounded handle of an instrument larger than the opening into the pharynx, producing thereby as great a dilatation as possible of the upper portion of the esophagus, there followed a very marked fall in blood-pressure, and the character of the heart beats displayed the distinct effect of "vagal" action. The respirations at the same time were very much slowed. The middle portion of the esophagus was then again dilated with as much force as possible, resulting in a slight irregularity of respiration with an unchanged blood-pressure curve. (f) Forcible dilatation of the esophagus, again upon a level with the upper portion of the larynx and at the end of the pharynx, produced a very great immediate fall of the blood-pressure and complete arrest of respiration. The narrowest portions of the esophageal tube were at the pharyngeal and the cardiac extremities.

2. On a mongrel dog, in poor condition, weighing twenty-three pounds, under ether anesthesia, the following experiments were performed: (a) Introduction of the rounded, wooden handle of an instrument into the pharynx produced a marked "vagal" cardiac action and irregular, slowed respirations. This was twice repeated, with the same result each time. The middle portion of the esophagus was again dilated, and it was found that but minor effects were produced from as little or as much dilatation as was possible of this tube from the lower level of the larynx down to near the cardiac orifice. (b) On forcing an obturator into the esophagus very slowly upward until it entered the cavity of the mouth, no appreciable effects were produced until it reached a point opposite the upper half of the larynx, when a marked fall in the blood-pressure occurred and temporary respiratory arrest. (c) An injection of atropine in sufficient dose, as proven by Du Bois-Raymond, to paralyze the nerve endings of the vagi was given. Then, on repeating the dilatation or choking in the area opposite the upper portion of the larynx and in the pharynx, no effect upon the blood-pressure was observed; the respirations were arrested as before.

3. On a Newfoundland dog, weighing forty pounds, in good condition, with a blood-pressure of one hundred and twenty-eight millimeters, under ether anesthesia, the following experiments were performed: (a) The rounded wooden end of an instrument, larger than the normal opening of the pharynx, was rather forcibly pressed through the mouth into the pharynx. This produced an immediate and very considerable fall in blood-pressure with temporary arrest of respiration, followed by irregular, slow respiratory efforts. Introducing the same into the cardiac end of the esophagus through an incision in the stomach, there was a slight fall in blood-pressure and slightly irregular respirations. Then, by exposing the esophagus in the middle of the neck and making a longitudinal opening, the instrument was passed through this incision upward, forcibly dilating the esophagus at a point opposite the larynx, whereupon there was an immediate and very considerable fall in blood-pressure, with temporary arrest of the heart and of respiration. (b) A physiologic dose of atropine was given, and its efficiency proved in the usual way. Then a repetition of the foregoing experiment produced but little effect upon the blood-pressure, the little being sometimes a fall; but it did not prevent the arrest of respiration.

4. On a bull-dog in good condition, weighing twenty-eight pounds, having a blood-pressure of one hundred and forty-five millimeters under ether anesthesia the following experiments were performed: (a) Forcible dilatation of the esophagus in its middle portion produced a rise in blood-pressure and a slight slowing of respiration. This was repeated twice, in different portions of the esophagus, with like results. (b) The same experiment opposite the upper portion of the larynx produced a marked fall in blood-pressure, with "vagal" beats and temporary arrest of respiration; later on the respirations recovered their normal rhythm. (c) A physiologic dose of atropine, proved in the usual way, prevented the effect upon the heart, as was shown in the preceding case, but the respirations were arrested as before. Now, making sections of both superior laryngeal nerves and repeating the experiment of choking opposite the larynx, there was no effect produced upon either the cardiac or respiratory action. Traction downward on the esophagus produced a fall in the blood-pressure but the characteristic "vagal" beats were not observed and the respirations were unaltered. Traction upward produced a slight rise in blood-pressure, with no alteration in respiration.

5. On a healthy mongrel dog, weighing twenty pounds, blood-pressure one hundred and forty-eight millimeters, under chloroform anesthesia the following experiments were performed: (a) The handle of a chisel passed into the pharynx and forced down in imitation of choking produced a marked fall in the blood-pressure with arrest of respiration. The pressure of the chisel did not come in contact with the larynx but with the pharynx and the base of the tongue. (b) A physiologic dose of atropine prevented the appearance of the blood-pressure phenomena on repetition of the experiments. The respirations were arrested as before. Various portions of the esophagus were then tested, and, with the exception of the cardiac end, there was but little effect upon either the respiration or the blood-pressure. The cardiac end was finally dilated with a Goodell dilator with very great force, the operation resulting in a slight slowing of respiration. Finally on severing both superior laryngeal nerves, then repeating the pharyngeal choking experiment, there was a rise produced in blood-pressure with slight respiratory slowing; upon traction the fall in blood-pressure was much less and there was no respiratory alteration.

6. On a healthy bird-dog, weighing thirty and

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one-half pounds, with blood-pressure of ninety-nine millimeters, under chloroform anesthesia, the following experiments were performed: (a) The wooden handle of an instrument was placed deep in the pharynx, and the free end carried outward into the angle of the mouth so as to produce a severe prying pressure against the walls of the pharynx. This produced a staggering fall in the blood-pressure, with complete temporary arrest of the heart and of the respiration. On severing both superior laryngeal nerves and repeating the experiment there was a very marked fall in the blood-pressure, with temporary arrest of the heart as before, but the respirations remained unaltered. (b) Division of the hypoglossal nerves on both sides and repeating the experiment produced a temporary arrest of the heart, with a staggering fall of the blood-pressure, but no effect upon the respiration. (c) As a control, very severe intra-laryngeal manipulations were made. These produced no effect on either the respiration or the heart's action. Then choking was again done in the same violent way, through the mouth with the wooden handle of an instrument, producing thereby the same inhibition of the heart as before.

7. On a thirty-nine-pound dog, with blood-pressure at one hundred and ten millimeters, in poor condition, under chloroform anesthesia, the following experiments were performed: The glossopharyngeal, the hypoglossal, and the superior laryngeal nerves on each side were exposed, looped with thread, and the animal prepared for the following tests: (a) As a control, the animal was choked from below upward, opposite the upper portion of the larynx, with the production of the usual inhibitory phenomena; then pharyngeal choking was practised through the mouth with the usual force, and resulted in the usual inhibitory phenomena. (b) Both glossopharyngeal nerves were then severed. On repeating the above control manipulation, similar inhibitory phenomena were produced. (c) Division of both the hypoglossal nerves and then repeating the choking experiments produced practically the same reflex phenomena upon both the respiration and the heart. (d) After an injection of one-one-hundredth of a grain of atropine into the jugular vein, repetition of the same experiments produced no effect upon either the respiration or the heart's action. In the experiment of choking, especially when the foreign body was large, there was evidence that the vagus itself was mechanically stimulated, either directly by a direct continuity of pressure, or indirectly by being dragged on by structures that had a connecting anatomical relation with it, and that thereby a direct inhibition was produced.

Summary of Experimental Evidence.—It is noted in all the cases that the narrowest portions of the pharyngo-esophageal tract were at the pharyngeal and the gastric ends of the tube respectively. Artificial choking produced at the gastric end of the esophagus had some effect upon the respiration, usually slowing it, and caused also some fall in the blood-pressure, but in no case were the effects of a striking nature. They were properly classed as minor phenomena. In no experiment on any part of the esophageal tract up to a point opposite the larynx were more than minor effects produced. Severe dilatation of this portion of the tube sometimes produced a rise, sometimes a fall, in the blood-pressure; the respiratory effects were never of much importance. However, at the points opposite the larynx, especially the upper part of the larynx, very marked respiratory and circulatory phenomena were caused by artificial choking. These effects were doubtless inhibitory and were produced through the vagus.

That the cardiac action was through the vagus is proved by the fact that physiologic dosage of atropine in every case prevented the fall in blood-pressure and the "vagal" strokes. That the superior laryngeal nerve was not the only path over which the inhibiting impules passed is proved by the fact that the pharyngeal choking, especially when accompanied by considerable violence, produced a marked fall—in fact, a collapse—in blood-pressure after the superior laryngeal had been severed. That it was not through the hypoglossal or the glossopharyngeal that this collapse was produced was proved by the observation that the same phenomena occurred after their severance.

Direct observation of the mechanical dragging on the upper portion of the vagus through the medium of the numerous anatomical structures lying in such close apposition to it and so closely interwoven, together with the negative proof adduced by the experiments, was sufficient to show that a part at least of the inhibition phenomena were due to a mechanical irritation of the superior laryngeal; but that it was not the only tract over which impulses passed was proved by a slight alteration in the respiratory action after the superior laryngeal had been severed, although no such marked effects as before could be produced. It is true, however, that all the evidence goes to show that the superior laryngeal is the only source through which choking may cause very striking reflex inhibition of the respiration. Tolerance, so far as the respirations are concerned, is very soon acquired; it is later acquired on the part of the circulation.

Some Observations.—Choking, then, produced symptoms of reflex inhibition, partly through the superior laryngeal and partly through the trunk of the vagus itself. In the case of the larynx all the symptoms are due to mechanical stimulation of the superior laryngeal nerves. In a given case, then, of threatened asphyxia, if operative procedures are to be undertaken for dislodgment of a foreign body, it would be well to give the preliminary dosage of atropine to prevent a great collapse or possible death during the operative procedures. It is perfectly apparent that in cases in which there is a history of choking without inhibition phenomena the foreign body, if large enough to cause much pressure, must be at a point below the level of the larynx.

(To be Continued.)

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CLINICAL MEMORANDUM.

HERNIA IN PREGNANCY AND PREGNANCY IN HERNIÆ, WITH NOTE ON UMBILICAL HERNIA.[1]

BY THOMAS H. MANLEY, M.D.,
OF NEW YORK.

HERNIA during or antecedent to the pregnant state we sometimes see, and there are recorded cases of impregnated herniæ; *i.e.*, when the uterus lies outside the abdomen in a hernial sac. The greater number of modern works on obstetrics and gynecology are silent on the subject of hernia as a complicating factor, or an accident in maternity or delivery. This is somewhat remarkable because the surgery of obstetrics has undergone great expansion of late years, and gynecology has come to claim the lower abdominal areas as belonging to its domain in addition to the open passages and pelvic viscera. The fully equipped obstetrician of our time must be skilled in operative-surgery, and hence prepared to deal with complications which, like herniæ, so frequently attend maternity. Therefore we would be led to believe on a review of the subject that, as the surgeon is somewhat chary about encroaching on the preserves of the gynecologist, and the latter hesitates to include any type of hernia as coming within his legitimate field, some doubts remain whether obstetric hernia belongs to the province of the latter or the former. But, however this feature of the question may be decided, the fact remains that as far as can be learned neither one up to this time has dealt with the subject with the fulness its importance merits. As has been demonstrated the evolution and pathology of this infirmity exhibits special and characteristic features in the female, and as we advance a step further we will observe that during the function of procreation it presents many remarkable and unique phases. For many cogent reasons it is important to determine what influence pregnancy has on this disease as a whole; whether it augments or retards it. Many of our most noted and eminent authorities of the past strenuously maintained that conception and child-bearing exercise a salutary influence on certain diseases and tendencies to disease, some including hernia in this category. In order to decide this and be able to judiciously advise those females who suffer from this infirmity and contemplate matrimony, it is necessary not only to listen to the testimony of our own contemporaries, but also to turn to those whose experience best entitles them to be heard on this important aspect of hernia.

In discussing this topic, Gurdieu, a noted obstetrician in the early part of this century, observes that "there are two causes which dispose the pregnant female to hernia, one is a relaxed softened state of the muscle fibers, with an excess of fluid in the tissues, the other is the weight of the gravid uterus on the intestines." He further notes that one who had hernia in childhood is prone to its return in pregnancy, but after delivery it tends to disappear. He fails to specify the types alluded to. Kuhn who gave special attention to ruptures in pregnancy, maintained that for some months after conception small reducible ruptures tend to recede as the uterus rises out of the pelvis; in this way many permanent cures were affected. He further showed that when relapse occurred a fresh protrusion of the peritoneum came down and the old degenerate sac, now distended with fluid, lay in close contact with it. My own experience has been that groin ruptures as a general rule are neither produced nor aggravated by child-bearing. In those cases known by the laity as "falling of the womb," it was a custom with many practitioners in the past to encourage pregnancy as a probable cure. In my own opinion there are certainly no valid grounds for prohibiting marriage in simple groin ruptures, as we have no positive proof that they are produced by child-bearing, although diminutive femoral herniæ are probably aggravated by it. But navel ruptures often greatly augment in volume during pregnancy, if they are not sometimes produced by it, and with repeated confinements may attain enormous proportions.

The uterus is sometimes lodged in the sac of a hernia and may there become impregnated. Fothergill says, "The uterus occasionally is lodged in the sac of an umbilical, femoral or inguinal hernia, where it may become impregnated; in which case an abortion may be induced and the hernia reduced or hysterectomy may be performed." Simon and Sabitier both report instances of impregnation of the uterus which had escaped through the inguinal and femoral portals, these sometimes advancing to term. Impregnation of the uterus in umbilical and ventral herniæ is not so very unusual. But what shall be done in the event of the impregnation of the uterus in a hernia of the groin? The simplest, safest and quickest relief would be obtained by a hysterectomy, but this would violate one of the moral foundations of surgical science. As early as 1531 Nicolaus Pol, an Italian physician, removed a mature infant from a massive labial hernia, the mother sinking on the fifth day and the child surviving. In 1761 Gowey, a Rouen surgeon was visited by a young lady of society, whom he had reason to suspect was suffering from an infected bubo. At the end of four months, as it was steadily increasing in size, he decided to open it, and on doing so found a living fetus. He baptized it and cut the cord. The result is not stated. Sylvester Saxtorph, a Dutch practitioner, records a unique case of this description in a poor peasant woman who previously had four normal labors. The gravid uterus escaped through the abdominal wall and hung down below the knees, but it was observed that a very thick, broad pedicle projection passed up through it into the abdomen. The case was seen by several of the most noted physicians of Holland, but none ven-

[1] Abstract of a paper read at the Annual Meeting of the Mississippi Valley Medical Association, held at Chicago, October 3–6, 1899.

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tured to interfere. She went on to term when the uterus became the site of violent contractions, sent the fetus up through abdominal portal and down, out and alive through the natural passages. He followed up the contracting uterus, pressed it inside and there it remained. He writes that the point of the emergence of the hernia was not a normal canal, but an opening through the muscles.

Most writers on this strange freak note that, as in all ectopic pregnancies, there is an invariable tendency to early abortion. Cazeaux, in 1840, cited a case of this class occurring in a young woman, twenty-four years old, pregnant for the sixth time. Pregnancy continued to the eighth month when the parts were opened and the infant delivered, both mother and child being saved.

Maternity and Exomphalos.—All are familiar with the influence in exomphalos as a causative factor. Umbilical herniæ of large dimensions we rarely see, except in child-bearing women. Whether alone, *ab initio,* pregnancy produces exomphalos there are some good reasons to doubt, but no one can deny that it leads all others as an aggravating factor. In some cases the whole umbilical opening gives and practically all the contents of the abdomen make their way out into this accessory cavity. In many the investing integument becomes so wasted that the vermicular movements of the intestines may be plainly felt, and cases are on record in which the atrophied integument has given way during the violent muscular contraction of labor, and the intestines were projected outward through the breach. This type of hernia presents many complicating, troublesome and dangerous features. It is one variety which never undergoes spontaneous cure. It is difficult or impossible to control by mechanical support; is prone to erosion, hemorrhage and incarceration, and is rarely completely reducible. It is one of the herniæ liable to impregnation, when it partly or entirely includes the uterus. Bedford has published the particulars of a case in which the head of the fetus was caught at the neck by the annular collar of the navel. The head was outside but by cautious taxis the constriction was overcome and the head forced back into the abdomen. Murray has seen an umbilical extrusion contain a fetus of the eighth month. In one of my own cases, that of a negress, there was in addition to the uterus a mass of fibroid outgrowths in the hernial sac.

Strangulation and the Pregnant State.—At first it would strike one as self-evident and conclusive that, in a woman with hernia, every delivery must entail a great risk, and the throes of labor must lead to a marked augmentation in volume of the hernia and a tendency to intestinal strangulation. Landis declares that "in hernia, especially of the non-reducible type, there is great danger of strangulation during labor," and Barnes affirms that "although hernia may not obstruct labor, it may become a serious source of danger to the mother." That pregnancy is an aggravating factor of various types of hernia all will concede, but experience and medical history prove beyond question that labor and simultaneous strangulation are incompatible conditions. No such case has come to my knowledge nor can I find a single case of labor at term complicated by strangulation in the annals of medicine on record. This would go to demonstrate clearly that mechanical pressure, under all circumstances, is only one factor in the production of strangulation, and it may be but a coincidence. Bedford raised the question as to what should be done in inguinal or femoral hernia in labor where with each pain the mass is vastly augmented; whether, in view of possible strangulation, we should be content to keep the hernia in check by manual pressure, or hasten delivery by artificial means.

We are in possession of no evidence that the gravid uterus is ever a cause of strangulation; on the contrary, advanced pregnancy rather serves as a deterrent. Several cases of strangulation during pregnancy are scattered through modern literature. These were evidently all early, as the subjects are reported to have quite generally "miscarried or aborted after operation." Unna reports one, a woman of thirty-seven, with femoral strangulated hernia and gangrene of the intestine. Artificial anus. Miscarriage on fifteenth day. Reavray and Jollivet each report cases in the third month of pregnancy with femoral strangulated herniæ. Kelotomy. Abortion on twenty-first day; death on twenty-seventh day. Mr. Canton reports a case of strangulated femoral hernia in the fourth month of pregnancy. Kelotomy was performed; miscarriage and death the same night. Dr. W. B. Fletcher of Cincinnati, O., has reported two cases. One miscarried on the tenth day after kelotomy for femoral hernia. His second patient was pregnant four months and was operated on for strangulated femoral hernia. Miscarried ten days later, but recovered. Weiner operated on another case in a patient thirty-seven years old, with femoral hernia. Pregnant three months. Miscarried on third day. Recovered. It is rather curious to note the absence of records of strangulated exomphalos in pregnant females in recent surgical literature, although, nearly a century ago, such cases were successfully treated by kelotomy and reduction. Chelius records three cases of strangulated umbilical hernia in pregnant women. Cooper's patient was in the eighth month of pregnancy, Lawrence's in the eighth month, and Clement's in the third month. Kelotomy was performed in each case with recovery.

Herniated Conditions in the Female.—In the early part of the past summer, 1899, two cases which aroused my interest came under my care for treatment. They presented pathologic states, which, up to the present time, have not received systematic study. My patients were both young women under thirty; one the mother of one child, and the other of two children. They were both in good health and were neither corpulent nor over-stout. They came to ascertain if anything could be done for a giving-way or a marked pro-

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lapse forward of their abdomens which had followed their confinements. One of the patients came from Brooklyn and her family physician had taken her to one of the most noted surgeons of that city, who pronounced "the pot belly" due to excessive fat. This examination must have been a superficial one, for on exposure and careful manipulation, it was found that over the most prominent part of the abdomen there was neither adipose tissue nor muscle, for under the thin, wasted, projecting pouch the peristaltic move-

Fig. 1.

Before Operation.

ments of the intestines could be easily made out. It seemed as though the whole musculature of the lower and lateral walls had given way and the muscles been resorbed, for nothing remained but a thin baggy envelope of fibrous structure, under a wrinkled, atrophied integument. The other case presented similar features. Both were particularly desirous for relief from the ungainly deformity which they possessed. It was my conviction in both cases that nothing curative could be promised, as degenerative and disintegrating changes had involved the muscle elements and destroyed them beyond any hope of repair.

The etiology and pathology of this unfortunate state must be of great importance to the obstetrician, for the probabilities are that the only effective therapy, if any, must come through prophylaxis, which should consist of a properly adjusted broad belt to be worn through the latter part of the pregnancy. Anything which produces very marked intra-abdominal pressure may lead to extensive atrophic changes in the muscles of the abdominal walls. Thus I could not find, on autopsy, a muscle fiber in the wasted sheath of the recti or lateral oblique of the abdominal wall in a woman who had for many years been subject to a large uterine fibroid. The violence of rapid labors, or the effects of those that are tedious and protracted, may tear the muscles from their attachments or widely sunder the central raphe below the umbilicus and thus produce a diverticulum or diastasis of the recti. Thereafter central bulging of the abdominal walls follows, into which abdominal organs tend to gravitate. This furnishes the basis of visceral ectopia, enteroptosis, with displacement of the liver, spleen or kidney. The full integrity of the abdominal walls is forever destroyed and all the elements of true hernia are present to remain.

Relative to its frequency, McCready found 61 cases of hernia in the examination of 3625 females in the London Truss Society from 1888 to 1890. In the aggravated cases, he adds, "the muscles quite disappear. This allows the abdominal contents to undergo displacement and topple over the pubis in a bag-like pouch, the shape, position and volume depending on the situation and extent of muscular damage." It is somewhat remarkable that more attention is not given to this subject in the text-books of obstetrics or gynecology, and I do not find any reference to it at all in the most of the later works on surgery. In Curtis' admirable treatise, however, we do observe that this important lesion did not entirely escape the author, for he says that "a separation of the rectus muscles produces a form of ventral hernia which is seen after pregnancy in

Fig. 2.

After Operation.

those who have been delivered at term." This type of the infirmity derives its great interest from the points of view of prophylaxis, causation, lack of tendency to strangulation or incarceration. Its progressive increase is quite beyond surgical relief and is rather incoercible to prothetic support.

Patient, a female aged forty-nine years; married; mother of six children. No history of trauma or hereditary tendency. She noticed the present exomphacele after the birth of her third

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child. It continued to gradually increase in volume, although it never gave her much inconvenience or worry until about six months previously, when the surface became eroded and began to bleed. In January, 1896, she was sent to me from Wilkesbarre, Pa., by Dr. A. P. O'Malley, for omphalectomy.

I found her an active, vigorous woman. There were no symptoms pointing to intestinal complication, and on examination is was evident that the extrusion consisted of an epiplocele. The integument over it had become as thin as parchment, with striated cicatrices radiating downward. The mass was entirely irreducible. Considering the character of the hernia and the general condition, it seemed to promise a most successful issue after operation.

The operation consisted in making a double elliptical incision along the lateral planes of the stem of the tumor. Then a free opening was made to the peritoneal cavity and the whole mass drawn well forward. It was caught at the root, secured at the base, and firmly held with strong forceps. Division was made though very cautiously and the numerous vessels secured separately by five silk sutures. When division was complete the lateral peritoneal edges were drawn well over the large nude stump and closed securely with a double row of continued catgut sutures. Then the stump was dropped back into the peritoneal cavity and the opening near the umbilical aperture was closed by heavy, through-and-through silk sutures. Recovery was rapid and she left for home three weeks after the operation at St. Mark's Hospital.

MEDICAL PROGRESS.

Mercurial Inhalations.—It has for a long time been held that the mercury vapors arising from the inunctions given to syphilitics had more marked therapeutic effect when inhaled than the small amount of the drug which was absorbed by the skin. Working on this fact for a basis, R. Kutner (*Berlin klin. Woch.*, Jan. 8, 1900) describes an apparatus invented by himself for the better administration of mercury by inhalation. Roughly explained, his method may be stated as follows: A closed box, in which there is an arrangement whereby the patient can work the mechanism, is provided with a tube which leads to a mouthpiece. The mechanism provides for the rubbing of mercurial ointment within the box over successively changing surfaces while the patient remains with the mouthpiece in position over his nose and mouth. It can easily be seen how advantageous such a method of administering a disagreeable remedy would prove. Not only is the skin unaffected and the attendant discomfitures and annoyances prevented, but the dosage is better regulated and none of the vapor passes off uselessly into the surrounding atmosphere. Furthermore, it is far more likely that patients become affected with stomatitis from breathing continuously the vapor arising from the old inunction method, than from absorbing the vapor several times daily, even although at these times the dose is more concentrated and powerful. The most important consideration, however, bearing on the therapeutic value of this method of administration is whether a sufficient quantity of mercury can be inspired in a sufficiently short period of time to be of positive value. Our author says that there is no question of this whatever. He states that with one half-hourly inhalation daily a noticeable amount of mercury can be demonstrated and recovered from the urine after a few days. This proves conclusively that the method is of practical utility. Symptoms of mercurialism were never noticed but Kutner insisted on the use of chlorate of potash as a gargle regularly after each inhalation. In one or two patients, indeed, in whom previous inunctions had resulted in gingivitis, the present inhalation method gave good results without a trace of poisoning. The author promises further facts regarding the procedures and investigations.

Convulsions after Labor.—When convulsions occur immediately after labor the physician is always more or less in the dark as to their causation and the proper means of relief. Therefore A. K. Bond (*Am. Jour. of Obstet.*, Jan., 1900) reports a case and discusses its etiology and treatment. The patient, twenty-three years of age, had always been very healthy. During the last two months of pregnancy she had had occasionally, on lying down, a twitching of the lower limbs. This would compel her to sit up, whereupon the twitching ceased. She was inclined to be constipated, but kept her bowels open with aperients. On measurement, the pelvis was found to be about one-half inch deficient in each of its dimensions. The urine was normal. There was no dropsy. During the whole of the first and second stages of labor the patient repeatedly vomited bile-stained matter. The labor was slow and it was finally necessary to deliver the child with forceps, because of the large size of the head and the small pelvis. A perineal tear required three sutures. There was very little hemorrhage during delivery, the uterus contracted well, and the pulse and temperature were satisfactory. The patient complained of headache a few hours later, and about ten hours after delivery had a severe convulsion. The temperature was 100.5° F., pulse 120 and hard, and respiration 28. Urine was abundant and normal, except that it showed a slight trace of albumin, due, as was supposed, to the preceeding convulsive state. Patient was conscious and had persistent headache. The patient seemed to be suffering from an acute intestinal poisoning. Seven or eight more convulsions occurred during the next four hours, although large doses of chloral and potassium bromide were given. There was occasional vomiting so that probably but little of the chloral mixture was retained. Finally, venesection was

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resorted to and about three ounces of blood drawn. There were no convulsions after the bleeding. The patient was then given croton oil, calomel, and a strong vegetable cathartic, at intervals, and after one foul-smelling passage and several easy ones, she was free from nausea and headache. On the third day milk came freely in both breasts. The urine was normal. For about two weeks there was an elevation of temperature, which was considered to be a "surgical fever" from the laceration of the cervix and perineum. The lochial discharge was never offensive. Bond thinks that the predisposing cause in this case was the nerve exhaustion of a severe, protracted instrumental labor and the immediate cause an acute stercoremia. He believes that sufficient venesection to lower the arterial pressure and just enough croton oil to carry off the septic mass was the correct treatment for stopping the convulsions.

Intra-abdominal Hernia.—W. Meyer had recently an opportunity to study two cases of retroperineal hernia of the right side. In both patients the cecum was placed unusually high so that the root of the mesentery of the small intestine extended almost transversely across the spinal column. Just below the root of the mesentery, and about midway between the cecum and the vertebræ, there was a pocket with its mouth opening upward. This pouch, situated like an open hand-bag just below the small intestine, was capable of receiving into its cavity the whole of the small intestine from the beginning of the jejunum to the end of the ileum. Indeed, the difficulty with which the intestine escaped from this receptacle caused symptoms of strangulation and led to operation. Meyer explained the development of this pouch by supposing that a hernia had formed in a parajejunal recess. Such a hernia instead of pressing to the right between the mesentery and the posterior abdominal wall, as would be the natural course of its development, grew downward on account of the horizontal position of the mesentery. As time went on, the weight of the contained intestine dragged and stretched the sac, until it reached well over the pelvic brim. One patient whose symptoms of strangulation had lasted not more than eight hours, died on the table ten minutes after the beginning of the operation. The condition of affairs was readily recognized, and the surgeon was engaged in withdrawing the reddened coils of gut when death took place. Ether was the anesthethic employed. The other patient who had suffered for two days with symptoms of obstruction made a prompt recovery from operation. (*Deutsch. Zeit. f. Chir.*, Vol. 53, p. 547.)

Edema of Skin in Influenza.—A new manifestation of influenza has been noted by A. Rieger (*Münch. med. Woch.*, Jan. 2, 1900). A severe pruritus of the head and face was present among the prodromal symptoms. With the full development of the disease a remarkable edema of the scalp appeared. The skin did not appear hyperemic as in erysipelas, but the enormously distended veins gave evidence of a passive congestion. The swelling eventually involved the cheeks and nose, but did not implicate the lower jaw. The original areas soon returned to normal as the face became involved. The condition was complicated by a well-marked fever, which terminated with the disappearance of the effusion. A slight pustulation, but no desquamation, followed this peculiar form of influenza, which, the author thinks, was due to a peculiar concentration of the poison in the skin.

New Guaiacol Preparation.—The numerous disadvantages of which the original antiphthisical drugs creosote and guaiacol are possessed have led modern therapy to employ such substitutes as benzosol, duotal, etc. These, being insoluble and improperly absorbed, reach the foci in too attenuated a form to develop the proper antitoxic effect necessary. A. Einhorn (*Münch. med. Woch.*, Jan. 2, 1900) finds diethyl-glycocoll-guaiacol to be an easily soluble salt which promises to replace creosote and its derivatives since it lacks their undesirable properties. Experiments on animals have proven this salt to be non-poisonous and non-irritating in moderate concentration. In its antiseptic powers it equals boric acid and is also slightly anesthetic. Even in daily doses of 3-12 gms. (45-180 grains) in wafers, or by hypodermic injection, no deleterious effects on the system were noted. The large doses in which this drug may be prescribed are an advantage, since thus a thorough saturation of the body is assured. In addition to pulmonary tuberculosis, encouraging results have been achieved in tuberculous diarrheas and locally in ozena, sarcomatous, carcinomatous and syphilitic ulcers, stomatitis, chronic conjunctivitis, empyema alveolaris, and as irrigations in pyloric stenosis and bladder inflammation.

Otitis Media in Infancy.—Physicians are probably called to attend children for gastro-enteric disturbances more often than for any other cause. E. H. Pomeroy (*Boston Med. and Surg. Jour.*, Jan. 18, 1900) thinks that most of the diseases of childhood are more easily demonstrated to be of infectious origin than can be proven in adults; that the pharyngeal postnasal chamber is the distributing point for infection of the middle ear, the lung, the brain, the stomach, and the intestines; and that the middle ear is an incubator promoting general toxic disturbance in many cases of localized infectious disease. He presents, and discusses at some length, statistics of Ponfick, who made 100 autopsies upon infants dying of congenital heart disease, extensive burns, non-infectious dermatitis, infectious dermatitis, diphtheria, scarlatina, pneumonia, meningitis, gastro-enteritis, otitis media, otitis media with acute bronchitis, chronic tuberculosis, and congenital syphilis. Although otitis media was not suspected in the majority of these cases, it was found to have been present in all except nine. He also cites the results obtained by other investiga-

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tors, showing the frequency of otitis in infants. A strong plea is made for the routine examination of infants' ears in all cases of grave disease, as otitis is undoubtedly an astonishingly frequent, and a very serious complication. Pomeroy cites five cases showing the advantage of routine examination of the ears in cases in which the ears apparently have nothing to do with the general condition. In one case no examination of the ears was made, but an autopsy showed otitis media. The ears of the other four cases were examined, otitis discovered, the membrane punctured, and one to four drops of pus liberated. This was followed by almost immediate recovery. Of these five cases, two presented the symptoms of gastro-enteric disturbance alone, one of gastro-enteric disturbance with bronchopneumonia, one was simply fretful with almost imperceptible pulse, and was constipated, and one had vomiting, a temperature of 105° F., and a cough which always caused crying.

Conjunctivitis Neonatorum.—Ammon (*Münch. med. Woch.*, Jan. 2, 1900) doubts that all cases of gonorrheal ophthalmia are due to infection during birth since so many cases develop later than the incubation period would allow. They are to be traced in many cases to poor hygienic surroundings, which favor post-natal infection. Gonococci were not present in all cases; some of the severe ones gave staphlyococci, while the pneumococcus appeared to be the exciting cause in some forms which improved as if by crisis. The pneumobacillus and the pseudoform of the Neisser coccus were isolated in several instances. In discussing the treatment, mention is made of the unreliability of silver nitrate since its powers of penetrating into the deeper layers of epithelium are at best very slight. Protargol has likewise proven itself untrustworthy in this direction and the proper drug has yet to be discovered. A mild antiphlogistic treatment, such as frequent irrigation with normal salt solution and the application of cold pads to the lids, is attended with the best results. After the acute stage is over, protargol may be used as instillation and the sound eye may be prophylactically treated by the same drug.

Slipped Knee-joint Cartilage.—W. H. Bennett (*Lancet*, Jan. 6, 1900) after a careful study of 200 cases of slipped meniscus gives these data: 182 males; 18 females; left knee 133; right 67; inner side of knee 155 and outer side in 45 cases. Patients ranged from thirteen to sixty-two years of age. The symptoms are precise; sudden pain, fixation at varying angle, effusion into joint and tenderness over the damaged cartilage. These symptoms may appear during normal movements, or after a wrench or blow, rotation of the leg upon the thigh being a prominent causative factor. Reduction may be spontaneous, or may follow manipulation. The fulness felt along the cartilage is due to extravasated blood or inflammatory exudation rather than to projecting cartilage. The only positive sign of displacement is the existence of a deficiency just above the head of the tibia in such cases as inward dislocation. Closely related to "slipped meniscus," but not mentioned in surgical literature, is another condition, a bruising of the periphery of the cartilage without displacement or loosening but with local blood effusion and later some inflammatory exudate which work between the bone-ends, and act as a foreign body. In this condition the attack is usually mild, the limitation of movement is slight, but reduction cannot be accomplished nor can the leg be fully extended, results easily explained by referring to the pathological state. Return to full function in these cases is always gradual, *pari passu* with absorption of the exudate about the periphery of the cartilage. Prolonged attempts at reduction aggravate the local condition. Treatment may be subdivided as follows: (1) Temporary rest, massage and exercise after reduction , or after satisfying oneself that the cartilage is simply "bruised" and, therefore, reduction impossible. The joint should be kept at rest for from four to seven days, with a splint. During this period the effusion usually disappears and until it has gone no movement should be permitted. Massage of the muscles and joint without movement cannot be commenced too soon. It prevents muscle atrophy and flaccidity of the joint capsule which is a frequent cause of failure in the treatment, and it expedites the absorption of the effusion. After the effusion is gone, passive movement, without rotary motion, is commenced. A week later active walking, with stiff knee, and after the third or fourth week ordinary walking is permitted. Massage must be continued three weeks to six months, according to the condition of the thigh muscles and the joint capsule, since these must have good tone in order to prevent the joint from wabbling. The iliotibial band is an important factor in maintaining the tone of the capsule, therefore attention must be given to the gluteus maximus and tensor fasciæ femoris muscles. This method of treatment sufficed to cure 112 of the 200 patients. (2) Treatment by apparatus is allowable only when the "rational" treatment cannot be carried out, or where it fails to prevent abnormal lateral mobility, and in those cases where there have been frequent recurrences and operation has been rejected. The only satisfactory apparatus is one preventing rotation in the knee-joint. (3) Operative treatment is indicated where palliative treatment has failed or where speedy relief is urgent. The operation of choice is a longitudinal incision over the cartilage followed by excision of the damaged meniscus.

New Method of Gastrostomy.—Desguin (*Ann. de la Société Belge de Chir*, October-November, 1899) realizing the importance of simplicity in the operation of gastrostomy on an exhausted patient, has devised the following procedure: A flexible silver tube one-third of an inch in diameter is bent at its middle at a right angle. Over one end of this is fitted a soft rubber tube ten

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inches long. The diameter of the rubber tube should be slightly less than that of the silver one, so that it may fit tightly upon it. The overlying skin is disinfected before the patient is brought upon the table. He is then given a little chloroform, or, as the author prefers, an injection of cocaine is made. Owing to retraction of the stomach, usually present in such cases, he prefers to make the incision along the left costal margin. With a pair of forceps the stomach is quickly pulled out through the wound. It is opened and the silver tube passed into it. A catgut thread is bound around the mouth of the gastric wound to prevent the stomach from slipping off of the tube. Two silk sutures are then passed, one on either side of the tube, through both lips of the abdominal wound and through the wall of the stomach at a distance from its opening, equal to the thickness of the abdominal wall. By this means a little funnel is formed at the bottom of which the gastric fistula is situated. The abdominal wound is closed by four or six sutures. The tube comes out spontaneously in about ten days. The author draws the following conclusions: (1) It is desirable to convince physicians of the slight risk of gastrostomy if it is performed sufficiently early. (2) It is equally important to emphasize the high mortality of gastrostomy as practised upon cachectic patients in the last stage of inanition. (3) Inanition is due to digestive incapacity from various causes, which is often greatly increased by narcosis. (4) On this account cocaine should be substituted for chloroform. (5) Complicated procedures are out of place with a debilitated patient. (6) The method of operating above described merits adoption on account of its simplicity, and because it does not require a general anesthetic, and permits the immediate nourishment of the patient and lavage if necessary.

Partial Myxedema.—Hertoghe (*Gaz. Heb. de Med. et. Chir.*, Dec. 17, 1899) points out that, while myxedema is well-known and can be readily diagnosticated and treated, there are many degrees between entire thyroid integrity and complete loss of function of this gland, concernwhich greater difficuties will arise. Three features should be borne in mind: (1) The study of the organic and functional characteristics of the parents of children manifestly hypothyroidic; (2) the analysis of true myxedema in the feeblest traces of the hypothyroidic taint; (3) thyroid treatment of conditions suspected to be myxedematous. True myxedema is characterized by premature senescence of the whole organism; this is seen to a lesser degree in mild chronic hypothyroidism. The dominant symptom, however, is an obstinate constipation. This is a lifelong complaint and all the other symptoms are apt to be ascribed to this one trouble. Once the disease is well established the patients are somnolent and easily fatigued and everything physical or mental seems to be beyond their energy Their sleep is poor, they rise early, more wearied than when they lay down, and it is only toward evening that the symptoms abate. The hands are cold, moist and formless, and with a little experience the physician may appreciate the extent of the disease by a mere hand-clasp. In children the most important sign is backwardness. The tendency here is toward cure, but in adult women it is not until the menopause is reached that improvement is noticed. The effects of thyroidine are no less marked than in true myxedema. It should, however, be used with discretion. Alcoholic drinks, tobacco and the excessive use of sugar must be strictly forbidden. The disease is often mistaken for and treated as anemia, and hence wines, beers, baths and cold douches are wrongly prescribed. Thyroid extract is more active and better tolerated after a preliminary treatment by means of the mild alkalis, sodium bicarbonate, etc. Since diarrhea may be caused by this drug, it is well to combine it with bismuth.

Post-partum Hemorrhage.—E. P. Davis (*Med. Rec.*, Jan. 13, 1900) lays considerable stress upon the necessity of appreciating the most frequent causes of post-partum hemorrhage and thus making the treatment less often required and more effectual when it is needed. The chief cause of this dangerous condition is exhaustion of the patient; local exhaustion, which is seen in the relaxed condition of the uterus, and general exhaustion which is observed in those cases of protracted labor in which the mother fails to expel her child spontaneously. The retention of a partially detached placenta, lacerations of the genital tract and profoundly altered conditions of the patient's blood are less frequent causes. Thorough examination should always be made as early as possible to learn the size and condition of the mother's parts and the presentation of the child. To avoid exhaustion during the first stage, the patient should be given liquid foods frequently, allowed to sleep, even if hypnotics are necessary, and the bladder and rectum kept emptied. McLean's double bag will greatly assist in dilating an obstinately firm cervix. In the second stage, mere "signs of exhaustion" are now considered indications for instrumental interference, which should be done under ether. After the expulsion of the placenta an examination of the parts will disclose any cause for hemorrhage in the cervix or vagina and this should at once be sutured in case the hemorrhage is at all severe. Pressure on the uterus and massage should be maintained until the organ is firmly contracted, combined with internal medication of ergot and one-thirtieth of a grain of strychnine sulphate with one-two-hundredth of a grain of atropine. Should the uterus fail to contract a vaginal douche of salt solution at 110° F. will be found very effectual. Should further stimulation be necessary or if retained blood-clots or placenta are thought to be present, a uterine douche of hot salt solution in a one-per-cent. lysol solution may be used combined, when necessary, with the use of the blunt curette. Failing in this, the

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uterine cavity should be tamponed with iodoform gauze, but only under the strictest antiseptic precautions. The gauze may remain for from twenty-four to thirty-six hours and its removal should be followed by a gentle but thorough irrigation with decinormal salt solution at 105° to 110° F.

Artificial Production of Gout.—Gout is known to attack birds and other mammals as well as *homo sapiens*. In birds especially the disease is a much-feared one, producing similar uric acid concretions in the joints and lower extremities and affecting the kidneys. H. Kionka (*Berl. klin. Woch.*, Jan. 1, 1900) describes experiments conducted on poultry to produce the gouty diathesis. Although the disease can be produced in birds by means of the internal administration of chromic acid or oxalic acid, the author prefers to obtain the condition by affecting the nutrition. This he did by feeding hens with fresh horseflesh, free of fat, keeping them in a roomy enclosure. They had as much water as they desired. The captives rapidly became accustomed to their meat-diet and seemed at first to thrive very well. In from three to five months the first symptoms of sickness appeared. These gradually drifted into well-developed gout. Various types of the disease manifested themselves. The hens at first became affected in their movements, unsteady in their gait, falling down when jumping from their roost, dragging up their legs as though in pain when stepping about. Then followed weakness in the limb, swelling of the joints, loss of appetite and unwillingness to move. Between such attacks all the symptoms disappeared only to reappear at successively shorter intervals. All signs and symptoms then became aggravated, the appetite failed completely, the limbs remained swollen and in a short time death ensued. In the more chronic cases the same symptoms were evident but were much longer drawn out. Localized concretions were well marked in the joints and between the tendons of the legs and feet. There were uric acid infarcts in the kidneys and uric acid deposits in the serous membranes. The hens seemed to show, while still alive, a great longing for lime. Two of them were, therefore, fed with 10 grams of pulverized egg-shell daily. Under this influence the excrement of these two birds many days exceeded 500 grams and their thirst was consequently increased. The reaction of their excrement also changed from acid to alkaline, while the quantity of uric acid given off was markedly diminished. The explanation of this may be said to be that the lime enters into combination with the nitrogenous compounds, which otherwise would form uric acid, to form urea and urates. In the human economy it is not impossible that the same processes are due to the same causes, and this opens up a large field for further investigation.

Surgery and Goiter.—G. Reinbach (*Beitr. z. Klin. Chir.*, vol. 25, p. 267) gives the results obtained in Mikulicz's clinic after various operations upon benign goiter. One hundred and sixty-two operations are recorded, with four deaths, giving a mortality of 2.5 per cent. In sixty-three cases enucleation was performed without a death. Three of the deaths after partial resection, were attributable to pneumonia. The fourth death followed ligation of the thyroid arteries. Most of the patients were seen at various times after the operation and only in one instance was there any recurrence of trouble. One patient developed tetanic symptoms after operation, due apparently to the fact that not enough of the thyroid was left to satisfy the needs of the body. The tetanus was of short duration.

Failure of Diphtheria Antitoxin.—During the last few years the antitoxin treatment of diphtheria has been generally accepted by the medical profession as being the most satisfactory, since it was theoretically an ideal one and also on account of the glowing reports which have been made in its favor. Enough time has now elapsed to gain a more accurate knowledge of its true efficacy in general practise and certainly the results are not so good as had been hoped. In the *Medical Record* (Jan. 20, 1900) J. E. Herman has given a rather extended report of statistics and insists upon the uselessness of the antitoxin treatment. He draws a close distinction between the toxin treatment which has proven successful in cases of smallpox, hydrophobia, and sarcoma, and the antitoxin serum which has been used in cases of diphtheria, tetanus, typhoid fever, tuberculosis, etc. He claims that it cannot be shown that any of these antitoxin serums have proven of any decided value, the somewhat lessened mortality in diphtheria being due rather to improved methods of medication and especially intubation than to the use of the antitoxin serum. Intubation is naturally used much earlier than tracheotomy would be, and hence many of the distressing and often fatal symptoms of stenosis are avoided. It is further claimed that the Klebs-Loeffler bacillus has no etiological relation to diphtheria, and many eminent authorities are quoted to show how frequently this bacillus is present in the normal throat or in cases of simple rhinitis or pharyngitis without the peculiar and general symptoms of diphtheria.

Myopia in School Children.—That near-sightedness has markedly increased with civilization and, in fact, is almost unknown among savage races is fully appreciated. The confinement and long hours of eye-strain which school children are now obliged to undergo results in the elongation of the eyeball and consequent myopia. P. A. Callan (*N. Y. Med. Jour.*, Jan. 20, 1900) says that many of the ailments of the school children of to-day are the result of reflex disturbances caused by even a normal eye which is subjected to a long-continued strain, especially during the early development of the child and in the midst of poor hygienic surroundings. He pleads for

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shorter hours at school and more outdoor exercise for the children.

Photographing Gall-stones.—Numerous attempts have been made to determine the presence of gall-stones by the use of the Röntgen rays, but authorities are generally agreed that it is impossible. Carl Beck (*N. Y. Med. Jour.*, Jan. 20, 1900) reproduces a number of successful photographs and gives an interesting report of the points upon which success depends. An important consideration is the time of exposure which seems to vary in different cases. He found that the longer the time of exposure the clearer the liver and the more obscure the calculi appeared. About five or six minutes seemed to give the best results, but this must be determined in each case. The most powerful focus tubes were used. It was also found essential that the patient should lie upon the abdomen with a pillow underneath his symphysis and clavicles. Another important point is that the rays shall not penetrate the abdomen in a vertical direction, but should form an angle of about forty-five degrees with the plate. A great deal also depends upon the composition of the stone, which is far more complex than that of renal calculi. Various experiments demonstrated that the calculi consisting of pure cholesterin give but an indistinct shade, while those containing quantities of calcium are well shown. The common biliary calculi are largely composed of cholesterin and hence are so permeable to the rays that only a slight shade is shown. Those calculi which consist of a compound of calcium and bilirubin, or carbonic acid, are very hard and are therefore distinctly brought out by the rays. It is thus found that only in selected cases can the demonstration of the presence of gall-stones be successfully made, but further experiments may improve the technic and furnish more valuable results.

Psoriasis and Glycosuria.—In spite of many attempts to connect these two diseases, the conclusions reached have never satisfactorily expressed the suspicions entertained by the investigators that there existed an interdependence between this skin affection and the presence of glucose in the urine. F. Nagelschmidt gives some interesting data bearing on this question in the *Berliner klin. Wochenschrift* (Jan. 8, 1900), which he obtained from personally conducted experiments. He based his experiments and made them hinge upon the question as to whether patients affected with psoriasis are more prone to glycosuria than are healthy people or people affected with other skin diseases. The persons experimented upon received in the morning on an empty stomach 100 grams of grape-sugar dissolved in 0.5 of a liter of water. Then the urine passed immediately before this ingestion, as well as that passed hourly for three or four hours after, was examined carefully. During this period all other food and fluid were proscribed. The tests used in the examination were the Trommer, the Nylander, and the fermentation tests, together with the polariscope. Only those urines were declared positively as containing sugar which answered all of these tests. The experiments were carried out on 25 patients with psoriasis. The results were that 8 of these 25 (32 per cent.) suffered from alimentary glycosuria, whereas not one had a trace of sugar in the urine before the experiment. It can certainly not be said that this large percentage is a matter of chance only. At any rate, it offers a very interesting and instructive contribution to our knowledge of the matter in hand.

Tinnitus Aurium.—In a suggestive paper on this subject R. Panse of Dresden (*Archives of Otology*, vol. 28, Nos. 5-6) distinguishes two main groups of ear noises. (1) Low, dull ones, which preferably arise in the middle ear, like the resonance sound *C* of the ear drum after closure of the ear, or the muscle sound of yawning, or the vascular sounds heard during absolute quiet. (2) High, ringing ones, which arise from conduction into the labyrinth through the stapes, the fenestra rotunda, or the labyrinth watch. Panse discusses in particular a group of noises which do not interfere with hearing, the point of origin of which is surmised with difficulty. These he groups as: Conduction sounds; reflex sounds; tinnitus due to affections of the inner ear and nerve; blood sounds; sounds accompanying struma, atheroma, cardiac lesions, and anemia. His series of conclusions are as follows: (1) Almost all sounds should be designated by their pitch. (2) The pure conduction-sounds arise from the diminished outlet of sound, due to rigidity of the conducting apparatus. Inasmuch as the motility of the latter is required for hearing only low notes, its fixation is an obstacle to the outlet of these notes alone. Pure conduction-sounds are mainly placed between 16 and 256 vibrations. (3) The higher pitched sounds are due to processes in the inner ear. They may be produced (a) by reflex from the external meatus, middle ear, and many different parts of the body; (b) by changes in the inner ear or the nerve itself. In rare cases, however, low sounds may, perhaps, also originate in the middle ear. (4) Hearing of complex sounds like melodies, etc., is not prima-facie evidence of a cerebral affection. With reference to treatment, the rule is formulated not to perform any grave operations on the conducting apparatus when the sounds heard are high pitched, and especially not to attempt removal of the stapes.

Cystotomy or Litholapaxy.—Assendelft has had an extensive experience with stone in the bladder and reports the results of the treatment of 630 patients. In his opinion suprapubic cystotomy is the operation of choice for children up to the age of fifteen years, since litholapaxy in children requires the skill of the most expert specialist. He has been very successful with his operations in children, having a mortality of 1.8 per cent. in 327 operations on patients under twenty years of age. (*Archiv f. klin. Chirurgie*, vol. 60, p. 669.)

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SATURDAY, JANUARY 27, 1900.

ELECTROLYSIS IN THE EUSTACHIAN TUBE.

EVERY practitioner of experience knows how obstinate to treatment and how hopelessly progressive are the cases of increasing tinnitus aurium and advancing deafness that follow catarrhal conditions in the nasopharynx. Many of them can be improved by the use of the Politzer bag and by careful treatment of the nose and throat. And some cases that have proved obstinate to these measures yield to the use of the Eustachian catheter and direct inflation of the tympanum after dilatation of the strictures with bougies. A number of cases remain discouragingly obstinate to all treatment, however, and these patients have had to face, with advancing years, the prospect of hopelessly progressive deafness.

The method of electrolytic dilatation of strictures of the Eustachian tube, reinvented by Dr. Duel and described at a recent meeting of the Harvard Medical Society of New York City (see p. 150 of our present issue), seems to promise, in these cases, at least an amelioration of symptoms ordinarily pronounced hopeless. The results secured by this method in some fifty cases are such as to leave little doubt that a new and valuable bit of operative technic has been added to the armamentarium of otologists. The persistence of the results secured by the new method, however, has not been determined.

The disappointing failure of a similar electrical treatment for strictures of the urethra is too recent not to be at once recalled by the introduction of electrolysis into otology. But it must not be forgotten that the conditions in strictures of the Eustachian tube differ decidedly from those in the urethra. There is very little surrounding soft tissue to be deeply affected and made cicatricially contractile by the electrolytic treatment. And there is no passage of irritating fluids over the dilated parts to add further to the irritative contractility of scar tissue.

Present experience includes some cases in which amelioration has persisted, with but slight modifications easily relieved by periodic inflation, for nearly two years. This seems to justify the hope in some unpromising cases that a really helpful therapeutic method, comparatively simple of application, has been discovered.

THE TREATMENT OF ANEURISM.

THE physician who has a case of aneurism under treatment is apt to wonder at times if by treating his patient exclusively with drugs he is really giving him the best chance for the prolongation of life. Despite popular traditions to the contrary, many medical men share the very commendable sentiment of that grand old man of English medicine, Jonathan Hutchinson, who says that he looks back with most complacence on those cases in his medical career which he referred to others for treatment, because he thought they could do more for them than he could himself. Medical men would be only too glad, as a rule, to refer their cases of aneurism of the aorta to the surgeon, if there seemed to be a well-grounded hope for permanent relief by some operative procedure without a forbidding mortality. From the discussion of the subject before the Surgical Section of the New York Academy of Medicine (see p. ——), it appears that as the result of recent American efforts in this line there is something more than a gleam of hope for even the most serious of these cases.

The much-lauded gelatin injection treatment from which, after the favorable French accounts, so much was expected, has proved a failure in other countries. The latest device, however,

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which consists in the wiring of aneurism followed by the passage of a mild electric current, has given excellent results. Dr. Stewart's pioneer achievements in this work have proved a source of encouragement to the profession throughout the country. The recent investigation in thoroughly scientific spirit of the technic of the operative procedures made at Johns Hopkins, brings out clearly all the possibilities for good that this method possesses in the treatment of large aneurisms. It will be a matter for sincere regret if after the reported results more of these patients are not given the chance for radical cure which the operation affords.

How tolerant of the presence of foreign bodies an aneurism may be is well shown by Dr. Wyeth's case, reported at the same meeting, in which a score of harelip pins were used instead of wire. The preconceived notion of the danger of the operation, which has so far served greatly to limit its use, is evidently exaggerated. The prospect of relief not only from actually annoying symptoms, but also from most of the subsequent dangers of the aneurism, are amply sufficient to justify the risk involved. In many cases the resultant clot is so firm and becomes in time so thoroughly organized that it does not seem too much to speak even of radical cure.

THE TREATMENT OF INOPERABLE SARCOMA.

OFTEN the victims of sarcoma are at the very acme of apparent health and strength when attacked, and for modern medicine with all its vaunted progress to pronounce the cases hopeless has been a most mortifying experience. Extensive radical operations have done something during later years to remove this opprobrium, but much remains to be accomplished. In the midst of the general pessimism regarding cases in which recurrence has taken place, it is well to bear in mind that the surgeon's resources are not all exhausted after the use of the knife.

About a year ago we called attention to certain cases in this country and in England in which the sterilized toxins of erysipelas and the bacillus prodigiosus had undoubtedly been followed by permanent cure. In England especially the subject has attracted considerable attention during the last two years, and some extremely favorable reports have been made. In this country the pendulum of medical opinion, always going a little too far, has brought the profession to ignore too much the possibilities of this method. The striking case presented by Dr. Coley at the last meeting of the Section on Surgery of the New York Academy of Medicine (see p. 154 of this issue) illustrates forcibly how a hopeless prognosis may sometimes be utterly undone by applying this treatment. A cure lasting nearly three years of microscopically diagnosticated sarcoma, after a third recurrence, when metastases were already present, is indeed a surgical event deserving of attention.

The precise therapeutic mechanism of such cures remains a mystery. As in the cases in which severe infective processes lead to the complete disappearance of undoubted sarcoma, it is impossible to say what element is the curative factor or how the result is accomplished. A certain number of these cases reported by competent observers are met with constantly in medical literature. Dr. Wyeth gave at the same meeting of the Surgical Section the details of two such remarkable cures. The patients have remained well for eight and fifteen years respectively. We called attention some time ago to a similar case of Dr. Richardson's of Boston.

The subject is evidently worthy of most careful investigation. Meantime it must be borne in mind that inoperable cases of sarcoma cannot be pronounced hopeless, until the effect of bacterial toxins, or even of actual infection has been thoroughly tried.

ECHOES AND NEWS.

NEW YORK.

New Advertising Methods.—It is reported that Mrs. Minnie Maddern Fiske, the celebrated actress, has recently become a member of the New York State Antivivisection Society.

New Brooklyn Hospital.—Plans are preparing for the erection of a new building to replace the central section of the Long Island College Hospital. The new structure, which will cost about $150,000, will be four stories high and fire-proof.

Canned Foods.—A bill has just been introduced in the New York Legislature providing that the year in which a can designed as a receptacle for foodstuffs has been made shall be impressed upon its bottom and sides.

The Flower Hospital.—Through the generosity of the widow and the daughter of the late Roswell P. Flower, the Flower Hospital has recently been the recipient of $200,000. This was given on the condition that the name of the hospital should be perpetual.

Dr. Hammond Revered.—At a recent meeting of the Board of Directors of the New York

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Post-Graduate Medical School resolutions of profound sorrow for the death of Dr. William A. Hammond were recorded, and expressions of respect for his memory were spread upon the minutes.

Medico-Legal Society's Dinner.—The Medico-Legal Society held its annual banquet and installation of officers on the evening of January 17th. Clark Bell, Esq., is the incoming president. The customary memorial to the English Government asking that clemency be extended to Mrs. Maybrick was sent.

A Correction.—In our last issue mention was made of the convalescence from typhoid fever of Drs. Pryor and Brown. By mistake Dr. Dillon Brown was mentioned instead of Dr. F. Tilden Brown. The former gentleman at last accounts was enjoying his usual excellent health. It is gratifying to know that Dr. Pryor and Dr. F. Tilden Brown are convalescing satisfactorily.

Bellevue Employees Poisoned.—Superintendent O'Rourke of Bellevue is investigating the strange illness of 180 of the hospital employees, who were poisoned at dinner on January 16th. The illness was mild in most of the cases, only one patient being obliged to take to his bed. Either some one poisoned the food, or accumulations of sediment in poorly washed cooking utensils generated a poison.

Health Report.—The Health Department presents the following report of contagious diseases for the week ending January 20, 1900: Measles, 777 cases and 28 deaths; diphtheria, 287 cases and 41 deaths; laryngeal diphtheria (croup), 10 cases and 11 deaths; scarlet fever, 245 cases and 13 deaths; smallpox, 1 case; chicken-pox, 33 cases; tuberculosis, 200 cases and 180 deaths; typhoid fever, 24 cases and 10 deaths; cerebro-spinal meninigitis, 4 deaths.

The Bellevue Training School for Nurses.—Twenty-three young women were graduated from the Bellevue Hospital Training School on January 16th. This brings up the total number since the foundation of the school, twenty-two years ago, to 614. Graduates are working in every part of the world except Australia. Three are in South Africa, one is on the hospital ship "Maine," and another is organizing the first training school for nurses in Cuba.

Drug Clerks' Bill.—The Assembly Committee on Labor and Industries gave a hearing on Tuesday, January 23d, on Assemblyman Maher's bill providing for shorter hours for drug clerks in New York City. Last year Mr. Maher had the same bill before the Legislature, and it passed, but at the request of the drug clerks, who came here en masse to protest against it, the Governor refused to sign the bill. The bill now provides that they shall not work more than 168 hours in two weeks.

Smallpox Patient Abroad.—William Brown, a negro from Virginia, after lodging three nights in a tenement went to Bellevue feeling ill. This was on January 22nd. After sitting in the reception room of the out-patient department for about an hour, he was told that he had a trivial illness and was sent to the city lodging-house in Twenty-third street and First avenue. At 8 P. M. of the same day he returned to Bellevue and sat another hour in the reception-room, when his illness was diagnosticated as smallpox. Wholesale vaccination and disinfection followed.

Cigarette-Smoking by Minors.—Although it seems to have been scientifically proved that cigarette-smoking *per se* when indulged in to a reasonable extent by adults is not injurious, it has been demonstrated with equal certainty that when practised to an excess, or at too early an age, it is destructive to health. Complaint has been made that the smoking-cars on the Brooklyn elevated road are frequented by boys under the age of sixteen years smoking cigarettes or pipes. The other passengers frown on the practise and sometimes the guard interferes, but there seems to be no systematic attempt to enforce the section of the Penal Code relating to children in this matter.

Charity Inspection.—To supplement the inspection work of the State Board of Charities, occasioned by the recent decision of the Supreme Court that the Gerry Society did not come under the provisions of the law, a resolution has been introduced at Albany providing for the appointment of five members of the Assembly to investigate the affairs of the Society for the Prevention of Cruelty to Children, and report to the Legislature before adjournment. The preamble to this resolution recites that the Society receives $30,000 annually from the city of New York, and that no authentic information had been received as to the financial standing of the institution.

Medical Ethics Observed.—The secular press has during the past week given great prominence to an operation performed at the Seney Hospital in Brooklyn in which the lining membrane of the shell of a hen's egg was used as a skin graft for covering a large granulating surface. This is the first time in the history of surgery in the United States that the lining membrane of an egg-shell has been usd for grafting purposes. The operation proved successful. It is especially noticeable in all these reports that the name of the operating surgeon did not appear. This was due to the fact that the surgeon insisted that the reporters should be given no information regarding the case except on the explicit understanding that his name should not appear. The reporters surprisingly kept their part of the agreement. There is no objection to the profession knowing, however, that this unique surgeon of these advertising times is Dr. George R. Fowler of Brooklyn, Professor of Surgery at the New York Polyclinic.

Doctor's Diploma for Sale.—Supt. O'Rourke of Bellevue Hospital recently made public a letter

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which came from Detroit, addressed to "The Superintendent of Bellevue Hospital." It informs him that a graduate of the University Medical College has fallen into poverty and would like to sell his diploma. The writer says: "The only purchaser for such a thing, of course, would be some student who had failed to pass his examinations, or some man who, for business reasons, wanted a medical diploma and could not get one in the ordinary way; or some student who had gone part of his time to college and had to quit for some reason. As to the price, $500 is less than half what it cost its owner to get it. Of course, it is worth more than that, particularly to a man who has failed and will have to give up altogether unless he can go home with a diploma." And this is added: "Fifty to $100 that some one, yourself if you care to try for it, can make by selling it for my friend. If you don't care for it, can you give me the name of some one who would care to work up a customer for it? It occurs to me that some of those South American fellows who are always about the University and Bellevue might be a good customer for it." The letter was signed "H. J. Buttonbook, care General Delivery, Detroit, Mich."

PHILADELPHIA.

Health Reports.—Deaths in the city for the week ending January 20th were 525, an increase of 21 over those of last week and a decrease of 61 from the corresponding week of last year. Contagious diseases: Diphtheria, 145 cases and 26 deaths; scarlet fever, 102 cases and 4 deaths; enteric fever, 35 cases and 8 deaths.

County Medical Society.—The Philadelphia County Medical Society has elected the following officers for the present year: President, Dr. John H. Musser; first vice-president, Dr. G. E. Shoemaker; second vice-president, Dr. Francis Perkins; secretary, Dr. E. R. Kirby; assistant secretary, Dr. W. S. Wray; treasurer, Dr. C. L. Bower; censor, Dr. T. H. Fenton.

Jefferson College.—A decided innovation in medical clinics has been introduced by Professor Hobart A. Hare in his course at the hospital. Lantern slides illustrative and explanatory of the cases shown are thrown upon a screen by an assistant. Tabulated charts, as well as photographs, are included. The scheme is heartily endorsed by the students.

Hospital for Contagious Diseases.—A pay hospital for contagious diseases has recently been chartered and the incorporators have elected officers for the year, the president being Hon. William N. Ashman. Efforts to secure a building are being made, the Women's Branch of the Board having announced a bazaar at Hotel Walton February 7th in aid of the movement.

Pediatric Society.—At a meeting held January 9th Dr. Griffith stated his disagreement with writers who associate miliaria with severe rash in scarlet fever. Four cases were reported in which miliary eruption was present with only ordinary intensity of the rash. He believes that there is no relation between feeling and the miliary eruption; that the latter is due to a peculiarity of the skin, and that its appearance is no indication of a severe attack of scarlet fever.

Consumptive Poor.—The treasurer of the Free Hospital for Consumptives reports that an expenditure of $7,000 was made in caring for the consumptive poor during the year just closed. This hospital association has not yet obtained a special hospital for these patients, but efforts are being made to establish one. Meanwhile the association endeavors not only to alleviate the suffering from consumption itself but also that entailed by the abject poverty which inability to work brings to many unfortunates.

School Hygiene.—The Committee on Hygiene of the Board of Education has been revivified and announces its intention of exercising a careful supervision of the schools. Plans for new buildings and improvement of old ones are subject to their approval. The necessity of the Board employing an inspector with a thorough technical training is to be emphasized and is a move in the right direction. The Women's Sanitary League has presented a petition asking that there be introduced in the schools instruction regarding the dangers arising from expectoration.

Water Filtration.—The season of freshets has begun and the water supply of Philadelphia, always bad, is periodically an indescribable mixture. However, as our great and only Munyon says, "There is hope." The Finance Committee of City Councils has reported favorably on the bill authorizing a $12,000,000 loan for filtration purposes and the bill will undoubtedly become a law. Experts have already submitted a report on various methods and purer water is assured—for posterity, at least. In the meanwhile the long-suffering Philadelphian will continue to take his *aqua pura* fried on one side or turned, as his fancy may dictate.

Antinomycosis.—At a recent meeting of the Pathological Society Dr. Simon Flexner exhibited the lungs taken from a woman dying of the above disease. She had a cough for many months, pain in the chest, particularly the right side, followed by a swelling which broke down and left a sinus. Examination of the pus from this sinus showed the presence of actinomyces grains. The main lesions of the lungs were in the lower lobes, the consolidated areas extending nearly through the organ. In addition to the principal foci, fragments of mycelial threads were scattered throughout the lungs. At first these were thought to be due to some other organism but none was found and the actinomyces is believed to have caused this diffuse appearance as well as the foci.

Sweat Shops.—The factory inspectors of the city are determined to put a stop to the making of clothing in the slum tenements where contagious diseases are known to exist and the sweat-

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shop law is being rigidly enforced. Last week a house in a locality where diphtheria and scarlet fever were known to exist was visited and over 200 pairs of trousers found there were condemned and sent to the Municipal Hospital where they were destroyed. The owner of these goods made a vigorous protest, as he was about to send them away to various stores. The house contained about 25 people and among these were found two cases of diphtheria and one of scarlet fever. Other manufacturers are being watched and violators of the law will be prosecuted.

Pennsylvania Hospital Clinics.—Dr. J. M. Da Costa recently exhibited a case of spastic paraplegia of congenital origin, it being the first case of that rare variety which this experienced clinician has seen. The history of the patient, a boy eighteen years of age, was carefully investigated and absolutely nothing pointing to cerebral involvement after birth could be elicited. This, together with the fact that the patient's sister had the same disease, was believed to make the case a perfectly clear one of the congenital variety.

Dr. A. V. Meigs believes that the bacteriological diagnoses made in the laboratory of the Board of Health from throat cultures sent them by physicians are often contrary to clinical facts. For this reason the posters put upon houses where contagious diseases are supposed to exist may be the source of needless annoyance and damage to many families. In his private practise he does not send cultures to the Board of Health, preferring to keep his patients under his own control. He advises that in a case presenting difficulty in diagnosis a culture be sent to a reliable private laboratory for examination. This gives the benefit of a bacteriological test while the physician still controls the case, can make his own diagnosis, and can say when his patient is well without being interfered with.

Examination Frauds.—The investigation by the State Medical Examiners regarding the fraudulent obtaining of questions by applicants for license at the meeting of the Board in this city in July, 1899, is still under way. The State printer, his foremen, and employees have appeared before the Board and the unsavory affair is to be thoroughly probed. The questions used at the meeting of the Board in December were read to the candidates instead of being printed, and the fact that of the 83 candidates from regular schools 35 failed is considered significant.

Philadelphia physicians denounce the action of Gov. Stone in failing to reappoint to the Board Drs. J. K. Weaver of Norristown and S. W. Latta of Philadelphia, whose terms recently expired. These men have been among the foremost in efforts to raise the standard of the medical profession and were especially active in advocating the strict interpretation of the four-year law and in pushing the investigation of the rumored examination frauds. No objection to their successors is raised, as they are men of unquestioned ability, but it is felt that the retirement of these two men at this critical time is a serious loss to the Board. Politics of the inimitable Quay brand is thought to be at the bottom of the change. However this may be, at least one of the new members has pledged his hearty support in furthering the investigation now being conducted. The finding of the Board is being anxiously awaited.

CHICAGO.

Meeting of State Board of Health.—The State Board of Health held its quarterly examinations at the Great Northern Hotel, January 16th. On the first day there were 43 candidates who took the examination for degrees; 18 for degrees in osteopathy, 11 for physicians, and 14 for midwives.

Emergency Hospitals.—A delegation of women physicians visited President Irwin of the County Board, urging the establishment of an emergency hospital in the First Ward, and explained to him that they believed such a hospital should be provided in every ward. The plan meets with the approval of Mr. Irwin, but he thought the matter should be taken up by the City of Chicago and not by Cook County. He thought the County was in no condition financially to add to its burdens.

Death of Dr. Hoadley.—Dr. Albert E. Hoadley, who had practised medicine in Chicago for twenty-eight years, died January 16th, from fatty degeneration of the heart. He was born at Chenango Forks, N. Y., on November 19, 1847. He graduated from the Chicago Medical College in 1872, and he was professor of orthopedics and clinical surgery in the College of Physicians and Surgeons, a member of the local societies, and likewise a member of the American Medical and American Orthopedic Associations.

Medical Inspection.—The medical inspection of schools inaugurated by the Board of Education resulted in the examination of 3054 pupils last week, of whom 323 were excluded from schools because of the danger of infecting other pupils. The Commissioner of Health gives his opinion that this protection to the school children must result in the prevention of much sickness and suffering and will save the lives of many who otherwise might die from contagious diseases.

Wesley Hospital.—The new $250,000 Wesley Hospital, for the building of which $150,000 has already been subscribed, will be under the management of the present building committee and the Deaconess Society. The medical staff will be composed of both regulars and homeopaths.

Diploma Mills.—The Secretary of the Illinois State Board of Health is reported as saying that academical Europeans cannot be persuaded that in Chicago degrees are not turned out by the diploma mills "as fast as they kill hogs." If the

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degrees were only as genuine as the hogs, no one could complain.

Estimates for Health Department.—Health Commissioner Reynolds has asked for $256,894 to run his department during the year. The largest amount requested is $60,034 for maintenance, supplies and contingent expenses. This item includes the Isolation Hospital, public vaccination, antitoxin treatment, stationery, printing, disinfection, chemicals, and laboratory supplies, transportation expenses for disinfectors and inspectors, as well as $4,200 to complete and $7,500 for the extension of the Robert A. Waller bath. The chief increases asked by the Health Department are in the contagious disease division, where the force of medical inspectors and disinfectors has been increased from ten to twenty, an addition of $19,000.

Vital Statistics.—Deaths for the week ended January 13th were seven fewer than the week preceding and forty-six less than in the corresponding week of 1899, according to to-day's weekly bulletin of the health department. Pneumonia and bronchitis together caused 129 of these deaths, or slightly more than 23 per cent. of the total. This is a small reduction compared with the preceding week, but a marked reduction compared with the corresponding week of 1899, when pneumonia was responsible for 127 deaths and bronchitis 31, a total of 158, or 28 per cent. of the total mortality. For the corresponding period of 1899, influenza was responsible for thirteen deaths, while for the week just closed there was but one death attributable to this cause. During the week there were five fewer deaths from diphtheria than in the preceding week, and an increase of one from scarlet fever. The mortality from both these diseases is still excessive.

First Voyage Down the Drainage Canal.—A twenty-eight mile trip from Chicago to Lockport, over the drainage canal, in a row-boat, by a reporter of *The Times-Herald* staff a day or two since revealed that beyond Kedzie Avenue, in this city, to Lockport, the water is practically free from offensive odor; that foul masses of city sewage are not flowing down the channel in such form as to menace health or life anywhere; that the sewage in the stream is in saturation, gives ample evidence of disintegration and aeration, and that water discoloration in the main channel is due less to the presence of sewage than to seepage along the earth sections. No great surface indication of the presence of poisonous filth could be found. The current moves at a rate of between one mile and a quarter and a mile and a half an hour, and the water is rapidly clearing. The channel is easily navigable, the present water-depth being twenty-five feet, and there is no offense to nostril or eye in any portion of the trip.

GENERAL.

The "Maine."—The American hospital ship "Maine," which left England December 23rd, arrived at Cape Town January 21st and proceeded to Durban January 25th. All were reported well and everything satisfactory.

A Medical Journal Suspends.—The *South African Medical Journal*, published at Cape Town, and many of whose subscribers reside in the Orange Free State, Natal and Transvaal, announced with its December issue that it would discontinue publication for six months.

Pure Food and Drug Congress.—The third annual meeting of this national assemblage will be held at Washington, D. C., March 7 and 8, 1900. This national organization is making strenuous efforts to have the National Pure Food bill passed by Congress.

Eddyites Indicted.—The Grand Jury of Council Bluffs, Ia., recently returned true bills of indictment against two followers of Mrs. Eddy, on the charge of being criminally responsible for the death of a young woman under their care who was sick from appendicitis.

Typhoid in Trenton.—There is a quite unusual epidemic of typhoid fever in the city of Trenton and its suburbs. The number of cases has grown from the average of twelve in a week to forty. The outbreak is generally attributed to the city's new reservoir.

Obituary.—Dr. Abram H. Wittmer, first assistant physician at the Government Hospital for the Insane at Washington, died on January 18th, in his fifty-fifth year. He was connected with the Government Hospital for over twenty years, and was a member of a number of prominent medical societies.

Vaccination in Connecticut.—During 1899 there were, according to the report of the State Board of Health, but three cases of smallpox in Connecticut. This immunity is attributed to the thorough manner in which vaccination has been done in the public schools, and to the wise and effective legislation which permits the exclusion of unvaccinated pupils from the schools.

Another Gift.—Mr. James Stillman of New York City, who recently gave $50,000 to Harvard University for the purpose of establishing a hospital and infirmary for sick students, has doubled the amount. The advance in the price of real estate and building materials has necessitated this additional sum in order that the original plans might be carried out.

Cuban Prisons.—Major Runcie, who has been officially investigating the conditions of the prisons in Cuba, describes the women's prison as a den of filth and iniquity; he did not find a cot, a blanket, or a female attendant in the prison, where several hundred women are confined. The sanitary conditions are almost indescribable. This state of affairs is the worst arraignment of Spanish mismanagement that has yet been discovered.

Mules Vaccinated.—The British Admiralty has issued a decree that the American mule must

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be vaccinated before he can enlist in the British army service in South Africa. This action was due to the fact that a large number of mules have died of glanders since their arrival on African soil. In the future all mules designed for South Africa will be inoculated with antiglanders serum or virus in this country before embarkation.

Dr. Conan Doyle.—Our professional brother across the water has experienced a change of heart since he presided at a peace meeting some eight months ago, and now declares that he has seen more positive virtue in Great Britain during the last few months than he had seen during the previous forty years. He regards President Kruger as a benefactor of the British Empire, and suggests that a monument be erected to him as large as St. Paul's cathedral, putting Oom Paul under it and inscribing upon it: "To the memory of the man who federated the British Empire."

The Plague.—The steamer "Doric" which arrived January 19th at San Francisco from Asiatic ports, *via* Honolulu, reports a fresh outburst of the plague, six deaths having occurred within a week. This brings the total number of deaths up to 18. It is understood that there are 26 cases in the hands of the health authorities. Surgeon-General Sternberg has received a cable from Major Blair Taylor, chief surgeon of the United States Military Hospital at Honolulu, reporting three additional cases and one death. He believes that the disease will be eradicated by the energetic measures used. The Honolulu Board of Health has $270,000 at its disposal, and has destroyed by fire the houses of the infected district. Reports from Buenos Ayres, Argentine Republic, January 24, announce that the plague has invaded Rosario, but that a vigorous cordon has been established.—The epidemic in India continues to spread among the famine-stricken populace but no new centers of invasion have been reported.

Dr. Howard A. Kelly Snake-bitten.—In the course of a lecture, on January 22nd, Professor Howard A. Kelly of Johns Hopkins was bitten by a rattlesnake, which he was exhibiting. With great coolness he sucked the wound for a minute, told his horrified audience there was no occasion to be disturbed, and continued to talk for over an hour. There was very little poisoning. The biting occurred while the doctor was returning the rattler to its cotton sack. As soon as he removed his hand the snake struck, sending its fangs through the sack and into the flesh. On this account the bite was not so virulent as it might have been. Dr. Kelly has been making a study of snakes for a number of years and he anticipates publishing a work on the reptiles of North America. He has a large collection, procured in various sections of the country, including the rarest specimens known to naturalists.

NOTABLE BOOKS.

"DIE KRANKHEITEN DER LEBER" (DISEASE OF THE LIVER).[1]

"SYSTEM DER BACTERIEN."[2]

DISEASES of the gall-tracts have attracted so much attention recently that this contribution to our knowledge of liver diseases cannot fail to be of more than ordinary interest. It has been claimed that most of the diseases of the liver belonged rather to the surgeon than to the medical man. We need only recall the fact that for atrophic cirrhosis, especially when complicated by ascites the most successful treatment is suture of the liver to the belly wall with the consequent formation of adhesions, the development of a collateral circulation, and the relief of the obstruction in the circulation. Of late, gall-stones have been claimed to be from the beginning a surgical and not a medical affection. Abscess of the liver is now opened as soon as diagnosticated. No palliative treatment is considered justified for a moment and even the trocar methods of emptying the purulent collection are finding less and less favor.

It is interesting then to find a recent book in which the medical aspect of liver disease is considered and in which the serious problems connected with the diagnosis of affections of the liver are put as clearly as is possible with our present knowledge of the pathology of that organ. The extent to which our knowledge of liver disease has broadened in this last half century is very strikingly displayed by one fact. The old morbus regius, or jaundice, which had fifty years ago practically an independent existence, is now considered a symptom of a very large number of different affections. Psychic icterus is a thoroughly established etiological division of the disease which a few years ago was very little considered. Icterus menstrualis, a jaundice occurring during the menstrual period and without any special pathological change to account for it, is another interesting type of the disease. A form of icterus that has received a good deal of attention during recent years is that following the ingestion of various poisons. It has been noted that even such familiar drugs as ether, chloroform, chloral hydrate and certain arsenical preparations may furnish occasion for the development of jaundice.

The chapter on cholelithiasis, written by Hoppe-Seyler, is deserving of special attention because of the present widespread interest in the whole subject of gall-stones and their treatment. Much more importance is placed on the wearing of corsets as a cause for gall-stones than is usual. In addition to the corset, there are in women two

[1] "Die Krankheiten der Leber" (Diseases of the Liver). By Professors Quincke and Hoppe-Seyler of the University of Keil. Vol. XVIII, part I., Specielle Pathologie und Therapie; edited by Professor Nothnagel of Vienna. Vienna: Alfred Hoelder, 1899.

[2] "System der Bakterien." Handbuch der Morphologie, Entwickelungsgeschichte und Systematik der Bakterien. Von W. Migula. Gustav Fisher. Jena. 1900. Zweiter Band.

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other causes that are supposed to lead to gall-stones, *viz.*, pregnancy and an indoor life.

For those who delight in statistics, the number of gall-stones that have been found in certain cases is of interest. In one of the gall-bladders of the Otto collection 7802 gall-stones were counted. Naunyn found in one gall-bladder over 5000 gall-stones, and Friedrich Hoffman reports a case in which 3642 were found. It is not an unusual thing to find gall-stones of different composition in the same gall-bladder. Hein who investigated 632 cases, found 28 instances in which the stones were of unlike composition.

Syphilitic hepatitis is considered here to be a much more important affection than is usual, and the authors write that cirrhosis and syphilitic disease of the liver are often confused in diagnosis. Sometimes the resemblance between a multiple gummatous cirrhosis and an ordinary cirrhosis of the liver is very striking. Where remissions occur, especially where the ascites comes and goes irregularly, and where the disease runs a course of several years, the cirrhosis is usually syphilitic. These are the cases of so-called cirrhosis of the liver which recover.

Syphilitic affections of the liver, as is well known, occur not infrequently in very young children as the result of heredity. Clinically this condition is often missed, yet the diagnosis of the affections is not at all difficult, since the liver in young children can be readily palpated and other liver affections are very rare. Many of the digestive disturbances in young children with syphilitic heredity are due to affection of the liver. Many of the cases of marasmus of doubtful origin are to be attributed to syphilitic hepatitis.

According to the authors, a true biliary cirrhosis, due to the destruction of the liver-cells by the irritative presence of bile and the overgrowth of the connective tissue, is possible but is very infrequent. As to the other form of so-called biliary cirrhosis, they say very properly that it is a misnomer and that it should properly be called cirrhosis cholangica. The sclerotic condition is not due to the biliary secretion, but only begins in the tissues of bile-ducts.

Two years have gone by since Migula wrote the first volume of his work on bacteriology. It was then seen that an entirely new influence had entered this field. Hitherto, with but few notable exceptions, the bacteriological domains had been given over almost entirely to the student of the medical sciences. Physicians, surgeons, and hygienists were eager in the work of new discoveries in this line and it was not until Migula first published in Engler and Prantl's "Die Naturliche Pflanzenfamilien," a chapter on the lower fungi, treating of the bacteria, that the strictly botanical hand made itself apparent. This second volume serves to accentuate this strictly systematic mode of treatment and also, in part, crystallizes a number of hazy conceptions pertaining to the relationships of the different genera treated.

As far as the medical world is concerned, the old grouping into pathogenic and non-pathogenic organisms, is sufficient for all practical purposes, but the student of natural science, botanist or zoologist, in one field of research at least, is impelled, by the well-known mania for classification, to arrange his objects of study in some logical order. In this volume of 1080 pages, with eighteen tables and thirty-five figures in the text, Migula has given a comprehensive botanical classification of all the then described species and has tried to bring some order out of the chaos of bacterial nomenclature.

His classification follows the lines already laid down in "Die Naturliche Pflanzenfamilien," and is here given in an abridged form. The bacteria are divided into two large groups, the Eubacteria and the Thiobacteria; the former are characterized as bacteria containing no central body (nucleus ?), sulphur, nor bacteria purple; colorless or lightly tinged, sometimes green like chlorophyl; the latter as bacteria containing no central body, but possessing sulphur and bacteriopurpurin, colored red, or pink or violet, never green. The families are the (1) Coccaceal, with the genera, Streptococcus, Micrococcus, in which is included the various forms of Diplococcus and Staphylococcus, Sarcina, Planococcus and Planosarcina. (2) Bacteriaceal, containing the genera Bacterium, which is raised to a generic rank, Bacillus and Pseudomonas. The separation of these three genera is based on the flagella. The species of Bacterium do not posses flagella and are non-motile, those of Bacillus are motile and posses numerous flagella, covering the body of the bacteria; while the forms of Pseudomonas are motile, but the flagella are collected at the ends. (3) Spirillaceal, made up of the genera, Spirosoma, Microspira, Spirillum and Spirochaeta and (4) Chlamydobacteriaceal. In this family the bacteria are rod-like and elongated into threads, which threads are surrounded by a sheath. Reproduction is effected by means of spores or conidia which may be motile or non-motile. The genera and species of this family are few and are imperfectly known. Chlamydothrix, Crenothrix, Phragmidiothrix and Sphaerotilus are the genera.

The Thiobacteria represent but few forms, when compared with the Eubacteria, occupying but ten pages of the 1050 devoted to the study of the bacteria. This genera and species are unimportant from the medical point of view. Most of the species are inhabitants of salt and fresh waters.

From the above brief discussion it might appear that this work would prove of interest to biological students alone. This is far from the truth and it should be known to every working bacteriologist as it may be said to be the first serious effort made to bring the vast mass of known bacteria into some sort of systematic order.

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CORRESPONDENCE

OUR LONDON LETTER.

[From Our Special Correspondent.]

LONDON, January 13, 1900.

DEATH OF SIR JAMES PAGET—THE "BOY PROFESSOR"—EARLY SUCCESSES—HUNTERIAN ORATION—FUNERAL IN WESTMINSTER ABBEY—BRITISH PHARMACOPEIA BEFORE THE COURTS—CHRISTENING AS A THERAPEUTIC AGENCY—SEATS FOR SHOP-WOMEN—SPREAD AND FATALITY OF THE INFLUENZA IN LONDON.

WIDESPREAD is the grief of the profession over the passing, with the last days of the old year, of one of the foremost surviving figures in English medicine. Sir James Paget had been for several years completely withdrawn from both the practise and the active interests of the profession, having been confined to his house, indeed, for the most part to his room, by the weaknesses incident to old age, but his influence and his memory were still fresh and powerful, his sick-room was a center of reverent sympathy, and the news of his departure comes with the shock of bereavement. To enumerate his triumphs and matchless services to surgery would be superfluous, the name of Paget, coupled with the classic "Lectures upon Surgical Pathology," is a household word in the profession and the work a classic and an authority still in spite of the half century which has elapsed since its appearance. And it was written by a young man of barely thirty-three, against whose appointment to deliver the lecture-courses of which it is made up, the protest was raised of "setting a boy to teach us surgery." The lectures established his fame at once and from this time on his career was one steady procession of honors. Warden and surgeon to St. Bartholemew's Hospital, where his great teaching-work was done, Fellow of the Royal Society, President of the College of Surgeons, Baronet, Surgeon to the Queen and Prince of Wales, these are a few of the milestones of his progress. He was even more beloved than famous. Gentle, modest, courteous to all, in his successes, as in his early struggles, he was one of Nature's noblemen and his baronetcy was literally "but the guinea's stamp." Seldom has a more brilliant audience assembled to do honor to any member of our profession than that which listened spellbound to the eloquence of his Hunterian Oration in 1877. From the Prince of Wales to Professor Huxley, from Mr. Gladstone to the Marquis of Ripon, leaders in every field of activity were present. Although half a generation has passed since then and many of that brilliant company have joined the majority meanwhile, yet so enduring was his fame that his funeral services in Westminster Abbey yesterday were attended by hundreds from all walks of life, who strove to do him honor. Wreaths were sent by the Queen and the Prince and Princess of Wales, who were also personally represented, and the pall-bearers were headed by Lord Lister and Sir Michael Foster. Seldom does a member of our retiring and little-celebrated profession attain such widespread fame.

That memorable document, the British Pharmacopeia, has been before the courts this week and on the whole came out the worse for the ordeal. A certain druggist was summoned by a zealous medical officer of health for selling a compound rhubarb powder which on analysis was found not to conform to the B. P. standard, containing only 30 per cent. of magnesia, instead of the required 60 per cent. This certainly seems a harmless enough variation and one can hardly wonder that the magistrate refused to convict, but his grounds went further than this. He declared that the British Pharmacopeia had no legal status whatever as a standard of genuineness in drugs or compounds, and that unless a drug was called or purported to be made according to the B. P. standard, it could not be held to or judged by that standard. This is unquestionably sound law and good sense, especially in view of the trivial nature of the departure from the standard formula and yet it certainly would be desirable to in some way insure that staple and commonly used compounds, such as the familiar rhubarb, licorice and opium "compounds," whose names in themselves mean little that is definite, should be held to a rather rigid standard of uniformity. And this would naturally and most conveniently be that of the British Pharmacopeia.

A strange and ghastly instance of the power of superstition even in these later days was furnished by an inquest held by Mr. Braxton Hicks this week upon the body of a baby seventeen days old. The autopsy showed death to be due to bronchopneumonia. The mother gave the extraordinary evidence that the child was ill on Wednesday, worse on Thursday, *so on Friday she took it to church to be christened!* Saturday morning it died. And this in the rawest, foggiest month of the year and an unusually bad month at that. Mr. Hicks remarked that he had had several similar cases before him during the past few years, children seriously ill, taken to be christened and dying in consequence. The explanation, of course, is simple. There is a firm belief, actually taught by the clergy until comparatively recent times, that the souls of infants dying unbaptised hover forever between heaven and hell; so that devout parents would risk much for their infants in this life to ensure their welfare in the next world, even at the hazard of hastening their departure thither, and the poor little victim is christened for its own funeral.

The new Act compelling merchants to provide seats for their shop-girls and women employees, which came into operation with the New Year is cordially hailed by medical men. Curiously enough its original introducer, Sir John Lubbock, was raised to the Peerage on the same day. The Act has had excellent effects already, as many of the better class of shopkeepers have pro-

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vided their stores with seats for some time past, some since immediately after its passage and without waiting for the date when it should become actual law. The requirement is one seat for every three assistants, and ought to result in the saving of much suffering and even permanent disabilities and displacements.

Much uneasiness is felt over the continued spread of the influenza and fears are expressed that a serious epidemic like those of 1891 and 1893 is in prospect; indeed, the record already is higher than any previous November and December except in those two years. *One hundred and ninety-three* deaths attributed to influenza in one week is certainly enough to alarm us, especially now that "influenza" as a formal cause of death is handled so much more cautiously than in earlier years. This is evidenced by the huge death-rate from respiratory diseases, nearly 600 above the corrected average for the week for the past ten years, chiefly from bronchitis and pneumonia. So far the pest itself, although very widely spread, is of rather a mild type and presents no new features; indeed, it had so many varied ones before that there seem none to present.

TRANSACTIONS OF FOREIGN SOCIETIES.

English.

OUT-OF-DOOR TREATMENT OF CONSUMPTION — PROGNOSIS OF APPENDICITIS—SURGICAL TREATMENT OF ASCITES—SENILE TUBERCULOSIS—TWELVE CONSECUTIVE CASES OF PERFORATED GASTRIC ULCER.

IN a discussion on the out-of-door treatment of consumption at a meeting of the Royal Medical and Chirurgical Society, November 28th, Heron called attention to the almost universal approval of this method. It is certainly very unusual that any form of treatment should be so widely advocated for two years without a single dissenting voice in the profession being raised. A life out-of-doors, either of amusement or occupation, plenty of wholesome food, and a bedroom arranged so that the patient is practically sleeping out-of-doors without being subjected to drafts, is a day's program that any man of common sense can follow out without going to a sanatorium. The speaker mentioned several instances in which patients have been able to earn their livelihood near home by doing the work of a gardener, land agent, pedlar, etc., although these occupations were quite new to them at the start. Such employment, or, if circumstances permit, the playing of fives, cricket, golf, or some other game, or skating or rowing, is far better for the patient than merely walking up an incline, and then walking down again. Many patients are annoyed by being required to make daily visits to their doctor. If all is going well, there is no necessity that a patient with incipient tuberculosis should see his physician oftener than once in ten days.

J. E. Pollock said that the mortality from phthisis in 1838 was 38 per 1000 of persons living, while in 1892 it was 14 per 1000. The health of the whole population has improved, and some diseases have been extinguished, not on account of any special treatment, but because of better sanitation, better dwelling and increased comforts of the whole people. In the Brompton Hospital for Consumptives, the results will compare favorably with those obtained on the Continent or elsewhere. Very little medicine is given, but the rooms are airy and well ventilated, for an abundance of pure air is supplied, which is heated by passing over pipes. The temperature is kept at 60-63° F., winter and summer, and the patients are encouraged to stay out of doors as much as possible.

F. G. D. Drewitt called attention to the fact that in the zoological gardens granivorous birds die in large numbers from tuberculosis, while meat-eating and fish-eating birds die much less frequently from that disease. Carnivora rarely die from tubercle, but caged animals do, whatever their dietary. The conclusions are obvious that human beings close-housed and fed largely upon starches will be especially susceptible to the ravages of consumption.

P. Weber agreed with the last speaker as to the value of proteid food for the consumptive. Men who have a tendency to gout, and who take large quantities of meat, are less likely to suffer from consumption than poorer people who cannot afford an excessive meat diet. Experiment showed that if a certain number of dogs are infected with tubercle and then fed some on meat and some on farinaceous food, those fed on meat are less prone to develop tubercle than the others.

In closing the discussion, K. Fowler spoke of the great difficulty in getting medical men and patients to realize the length of time required to bring about an obsolete condition of the lesions. The word cure should never be used, or only after finding out what meaning the patient attaches to it. It is seldom true that all physical signs disappear, unless reference is had to adventitious signs alone. These were as a rule absent from arrested lesions, although when emphysematous changes have taken place around a fibroid lesion, a few bubbling râles may remain.

At the meeting of December 12th, S. Martin said that the slow growth of tuberculous lesions, the prolonged vitality of tubercle bacilli in animal tissue, and the very problematical formation of antitoxic substances in the patient infected by tuberculosis, are in strong contrast to some of the acute infectious diseases. Mankind must be considered relatively immune to tuberculosis. The bacillus certainly tends to become quiescent. One of the most important questions in connection with the treatment of tuberculosis is that of secondary infection, either by the streptococcus, or by the bacillus of influenza, or in children by the agents of acute infectious diseases. To prevent secondary infection is one of the objects of treatment by fresh air, and in sanitary surroundings.

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The dissemination of knowledge concerning tuberculosis has done good in several ways. It has led to the taking of measures for the destruction of the sputum, and the disposal of clothing soiled by the patient. It has also led to the protection of the alimentary tract by greater attention to the health of cattle, and by the boiling of suspected milk. Physicians have also learned that a tuberculous patient who has fever must be kept at rest like any other febrile patient; and that a patient ill with tuberculosis must be intelligently treated, and not sent on long voyages in a haphazard way, in the hope that change of climate may effect a cure. An excess of food may be of advantage to repair waste of tissues, but in this respect judicious feeding rather than over-feeding should be the rule. A change in the life of the patient, even without a change of locality, may be the turning point toward recovery. In the houses of the well-to-do this can be accomplished without sending the patient to a sanatorium.

At the Medical Society, November 27th, Caley opened a most interesting discussion of the prognosis of appendicitis. In the medical and surgical wards of St. Mary's Hospital, 200 consecutive cases of appendicitis were treated. There were 99 cases of simple appendicitis and perityphlitis—that is, cases in which the peritonitis was localized and non-suppurative. All of these patients recovered. In 31 cases there was localized suppuration, and of this class 2 patients died. In 23 cases there was general peritonitis, and of this class 20 patients died, many of them being, it is true, in a hopeless condition when received into the hospital. There were 42 cases of chronic and relapsing appendicitis, in 37 of which the appendix was removed. All of the patients of this class recovered. For prognostic purposes the lesions of the appendix may be considered as severe and mild. The severe lesions are perforation, gangrene, ulceration, and sometimes concretion and suppuration within the appendix itself. Most of the fatal cases are associated with perforation and gangrene. Mild lesions are simple inflammation, whether acute or chronic; stenosis or obliteration of the lumen with or without cystic dilatation of its distal portion; some forms of concretion; superficial ulceration; kinking; volvulus, or extensive adhesions. Most chronic cases present these symptoms, which are mild as far as the probability of an extension of the peritonitis is concerned. Persistent severe pain or vomiting, or a sudden return of pain or vomiting after an interval of quiet, are symptoms which almost always indicate a severe case. The same may be said of a pulse persistently above 120. or an initial collapse, even if it is soon succeeded by a more comfortable period. The prognosis for recurrence has been variously given at from 30 to 47 per cent. In Caley's cases it was 31 per cent. Usually the second attack comes within a year, almost certainly, if at all, within two years. There will surely be a recurrence if there is pesistent pain and local thickening.

Berry spoke against a hasty incision in acute cases. In 24 acute cases, treatment was by free incision. Five patients recovered and 19 died. In 21 strictly comparable cases the expectant method of treatment was employed, to be followed by limited incision. Nineteen patients recovered and 2 died. Under the charge of another surgeon, 9 similar cases were treated by free incision. Of these patients 7 died. In 20 other cases a late limited incision was made, and none of these patients died.

G. R. Turner read a paper on the surgical treatment of ascites at the meeting of this society held December 11th. Two patients were operated on by him. In one of them the upper and under surface of the liver was scratched, and the liver was stitched to the abdominal wall. In the other case, in addition to these procedures, the omentum was stitched between the liver and the parietes. This patient recovered, while the other was scarcely benefited, and when heard of four months later he had been tapped several times, and was then in bed with ascites of an extreme type. The patient who recovered was for some weeks troubled with pain in the region of the liver, and his spleen remained large for several months. The author of the paper insisted on the advantage of an early operation before the liver tissue had so degenerated that it cannot hypertrophy after the establishment of additional circulation. He favored an incision along the costal margin, and the introduction of the omentum between the liver and the abdominal wall.

At the Clinical Society, November 24th, Marsh read a paper on senile tuberculosis. He gave the history of a patient who at the age of 71 developed a suppurative arthritis of the left ankle. This was at first drained, but afterward extended up the leg so that amputation had to be performed. Then the right foot had to be taken off, for a similar affection of the ankle. Later the right knee-joint became affected in a similar manner, and amputation was performed through the thigh. These three operations were performed in a period of four years. Since then two years have elapsed in which there has been no further trouble. The disease in each joint evidently began in the synovial membrane, and led to complete destruction of the ligaments and cartilages. Marsh regarded this case as one of senile tuberculosis, a disease which in the aged has a tendency to remain localized, and has therefore a favorable prognosis.

At the meeting of December 8th, Barker made a communication based upon twelve consecutive cases of perforated gastric ulcer in which he performed operation. Five of the patients recovered. One died as a result of hemorrhage from the ulcer into the stomach. From this accident one might conclude that the ulcer should be excised, but it is evidently not a common accident, since this was its only occurrence in his experience. Wiping the abdomen, especially the under surface of the diaphragm, he preferred to flushing. Drainage was employed

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only once, and then was not of any service. It was remarkable how slight the premonitory symptoms were. Several of these patients had complained of indefinite gastric pains only previous to the perforation; three gave a history of vomiting and two of hematemesis. In the five successful cases the interval between perforation and operation ranged from six to eighteen hours; while in the fatal cases it ranged from twenty-eight to seventy-seven hours. As to the diagnosis, there was in every case epigastric pain, but it varied in character. Collapse was present in only six cases. It seemed to depend on the character and amount of the extravasated fluid. Liver dulness was not always absent. The remote results after operation were good. In only one of the five patients were there symptoms which seemed to threaten a recurrence of the perforation.

SOCIETY PROCEEDINGS

HARVARD MEDICAL SOCIETY OF NEW YORK CITY.

Stated Meeting, Held January 6, 1900.

The President, Henry C. Coe, M.D.. in the Chair.

Strictures of the Eustachian Tube.—Dr. Arthur B. Duel read a paper in which he discussed the value of electrolytic dilatation for strictures of the Eustachian tube consequent to chronic catarrhal otitis media. There has been a remarkable change of attitude among otologists as to the treatment of chronic otitis media. Formerly, after a definite diagnosis, conscientious surgeons were apt to say that no remedy would be of any service, that the patient would probably grow deafer with time and that there was little hope of amelioration. After several regular practitioners have been tried with like ill success patients usually fall into the hands of charlatans and at least for a time enjoy the mental relief of having some hope held out to them, and having something done for their affection. Later it is realized that nasal and nasopharyngeal conditions were prominent factors in the production of chronic otitis media and that relief of the conditions in the throat and nose often brought improvement in the hearing. Sometimes the otitis media begins in the tympanum itself, but more usually it begins in the pharynx and spreads upward along the Eustachian tube. The narrower part of the tube is always seriously affected, its caliber is greatly diminished, or it is even occluded by the hyperemia which occurs. Later there is an exudation and the inflammatory products thrown out still further narrow the lumen of the tube and do so permanently. The ventilation of the tympanum suffers and this causes a hyperemia all through the inner aural passages. The chronic inflammation continues and the exudate organizes into connective tissue. Incurable deafness results as a consequence of the sclerotic process. Insufflation is of value in these cases, especially at the beginning, as it relieves the hyperemia. Its most important indication, however, is the ventilation of the tympanum. While inflation by the Politzer bag often suffices, the best method for most cases is the use of the Eustachian catheter. Where inflation fails, a stricture of the Eustachian tube usually exists. This is overcome in a good many patients by dilatation with bougies. Of late, however, electrolysis has been employed for this purpose, with excellent success. In urethral strictures it is well known that electrolysis often gives excellent results. It is from this that the suggestion came to apply a similar method to the ear. Electrolytic dilatation of strictures of the Eustachian tube was first employed in England more than ten years ago. Some six cases were reported in the *Lancet* as treated by this method, but since then it seems to have fallen into disuse.

Technic of Methods.—Neither of the English physicians who tried electrolytic dilatation of Eustachian strictures used a bougie which protruded more than an inch from the end of the Eustachian catheter. In recent work at the New York Eye and Ear Hospital a bougie that protruded an inch and a half, or more, according to the necessities of the case, was employed. The catheter was solid silver and was insulated by being wrapped with a piece of rubber tissue. It is in size about No. 3 or No. 4 of the French scale. The bougie is made of solid gold. The olive-pointed end fits into the aperture of the Eustachian catheter. Both instruments may be thoroughly sterilized by boiling. Before its use, to avoid infecting the tube, the nose and pharynx should be rendered as thoroughly aseptic as possible by the use of an antiseptic, such as Dobell's or Seiler's fluid. The bougie after the insertion of the catheter into the Eustachian tube should be introduced until it meets with an obstruction. No pressure should be used, but a current of from one to three milliamperes should be allowed to flow for a few minutes. Usually the instrument will pass after a short interval. If after from three to five minutes it does not, the current should be increased to five milliamperes. As a rule the bougie then passes the obstruction without pressure. Patients will tell of hearing bubbles in their ears which shows that the electric current is melting the sclerotic tissue of the strictured tube. At the New York Eye and Ear Infirmary where this method has been in use now for considerably more than a year some fifty cases have been tabulated. In all most satisfactory results have been obtained. Three typical cases may be given. The first patient, Dr. S., was troubled with increasing deafness and very bothersome tinnitus, which had been relieved for some years by treatment of the nosopharynx and by insufflation with a Politzer bag. Gradually the condition became worse and could not be relieved by these measures. On examination a stricture of the Eustachian tube was found. An

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electrical bougie was passed, the current applied and the stricture promptly yielded. Inflations were practised for several days afterward and the patient was discharged completely relieved of his deafness and of the ringing in his ears. He has remained well for nine months practically without any treatment. Some tinnitus having recurred about two weeks ago he came back for inflation, which promptly relieved his symptoms. In a second case inflations failed to relieve the symptoms. The deafness was very pronounced, the tinnitus extremely annoying, and troublesome vertigo was present. Before electrical treatment, a whisper could scarcely be heard at all. After the stricture had yielded and inflations had been practised for a day or two, a whisper could be heard at the full length of the room, twenty-four feet. The patient was warned that occasional inflations would be required, but he felt so well that he neglected the advice. About six months afterwards some of the old symptoms recurred. Only inflation was necessary to relieve them. After a time this measure was neglected once more. For over a year now there has been no recurrence of any of the symptoms. The third patient was a well-known singer in whom the bone conduction of sound was increased on both sides. Inflation improved the hearing on the left side, but had no effect on the right. After the passage of an electrical bougie on the right side, followed by inflation, his hearing which was very markedly defective was very much improved. Hearing on the left side was improved by the same treatment.

Progressive deafness is usually caused by atrophy and sclerosis of the tissues of the middle ear. The inflammation of the tube is only local and practically always produces a stricture. The indication is to remove this obstruction as soon as possible. The easiest, quickest, and most efficient method of accomplishing this is by electrolytic action. This method requires less force, there is less danger involved in it, and the bougie will pass after the current has been allowed to act for awhile. Often in these patients it would be impossible to introduce a cotton or other ordinary bougie. Strictures thus relieved do not recur. At least the experience at the New York Eye and Ear Infirmary justifies this positive declaration. Where temporary relief follows inflation, one can hope that the hearing may be entirely restored by the electrolytic method. All tubes should be opened when there is reason to think that their closure is an etiological element in the deafness.

Dr. Sturgis said that the use of electrolytic action in the treatment of urethral strictures has been practically abandoned, because of the danger of making false passages and because of the liability to recurrence and the great difficulty of dilatation after recurrence has taken place. It is very easy to make a false passage with the bougie in attempting to pass it through a stricture by the aid of electrolytic action, because the urethra deviates so much when strictures are of any considerable length. The destruction of tissue is followed by the production of scar tissue which has a very marked tendency to firm contraction and a constriction takes place that is much harder to pass than the first. Whether these same objections would hold against Eustachian electrolysis only experience can show.

Dr. Brandon said that he had been under Dr. Duel's care for deafness and tinnitus aurium and that all of his symptoms had been very much relieved by the electrolytic dilatation of his Eustachian tube. The sensations were not pleasant, but were not very painful, and the relief afforded had been very marked. The tinnitus was greatly lessened and his hearing very much improved. He had practically given up hope and had yielded to the idea that, like his father, he would have to submit to deafness as he grew older. Insufflation had failed before to relieve his symptoms, but now when there are slight recurrences inflation is of great service. The difference in the nature of strictures of the Eustachian tube and of the urethra makes it probable that recurrences will be very different in the two structures. There is not much soft tissue around the Eustachian tube to be affected by the current and so there is not the production of much scar tissue. As to a false passage, that would seem to be guarded against in the Eustachian tube by the presence of the bony canal.

Dr. Joseph Kenefick said that every day adds to the conviction that the electrolytic dilatation of the Eustachian tube is a brilliant discovery. It does cause some pain but complaint is made only by very nervous patients. Those who suffer most come back to have the operation repeated because of the relief afforded. There is no danger in the operation and it has solved a great and a difficult problem in otology.

Dr. Duel in closing the discussion said that there is no danger of making false passages in the Eustachian tube because very little pressure is used when the electric current is employed. Much less is used than in many other methods. It may be necessary to do the operation in two sittings. The first time the bougie may not pass, while the second time it will be found comparatively easy to pass it on. The indication is to open the tube.

Trumpet-Mouthpiece above Soft Palate.—Dr. Frothingham reported a case in which a child had swallowed the porcelain mouthpiece of a toy trumpet. At least the mouthpiece had disappeared from the child's mouth and caused symptoms of difficult breathing and swallowing. A number of physicians were consulted and a number of different forms of bougies employed to locate the object, all of which proved unsuccessful. When the child was brought to the Vanderbilt Clinic it was found that the mouthpiece was lodged above the soft palate in the nasopharynx. From here it had caused all the symptoms that had been noted yet had completely escaped observation. The probabilities are that it had been coughed into this position.

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NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, Held January 4, 1900.

The President, Wm. H. Thomson, M.D., in the Chair.

Migraine as a Neurosis.—Dr. Coleman W. Cutler said on this subject: Heredity is the most prominent feature in the etiology of migraine. Sometimes the heredity is not direct, but the neurotic disposition is manifest in the ancestry or in the family and at times neurotic tendencies are replaced by other diatheses, such as the rheumatic, the gouty, or the diabetic. The most striking symptom of the disease is the aura. This is practically always present although other features of the disease may be absent, or may not be very prominent. The most important auræ are those in the visual sphere, usually bizarre light effects, bright muscæ volitantes, fortification figures, or showers of stars. More rarely other aura are noted, as, for instance, peculiar odors entirely subjective in origin; at times subjective tastes. Leyden has recently reported a case of recurring metallic taste just before an attack. Then there are at times various paresthesiæ that replace the visual aura. Defects of memory and paraphasia have been noted as preceding attacks of migraine. The disease does not always occur regularly, that is, at regular intervals, but may follow certain definite causes. A prominent physician in the city always has an attack of migraine after taking any unsual exercise. He takes advantage of this fact to anticipate his recurring attacks of migraine. Whenever he has any important duties at a definite time he deliberately brings on an attack by taking a certain amount of unusual exercise and then he is sure that he will be free from the affection for some weeks. He finds that he is able to control most of the discomforts of an attack by a quarter of a grain of morphine. This does not produce sleep, but allays the discomfort. It must not be forgotten that attacks of migraine may be initial symptoms in such diseases as tabes, general paresis and brain tumor. When a first attack occurs late in life suspicion should be aroused as to the existence of some organic lesion of the nerve centers. This must be especially borne in mind if the patient is not of a nervous disposition and there is no special neurotic family history.

Glaucoma and Migraine.—Great care must be exercised in the differential diagnosis of glaucoma and migraine. Time is very precious in the former affection and a day or two of delay may mean the loss of vision. It is sometimes advised to use the ordinary remedies for migraine and then if they do not succeed to suspect the presence of glaucoma. This advice is bad and may easily cause permanent loss of sight. In cases of migraine the tension of the eyeballs should always be carefully tested. Especially must this be done if patients come with a first attack of what seems to be migraine. In general it is to be remembered that eye defects have an important bearing upon the existence and persistence of migraine. All discoverable visual defects should be corrected. Other sources of peripheral nerve irritation should also be carefully looked to. It is not enough to correct astigmatism, but adenoids should also be removed and hypertrophied turbinated bones should be properly treated. It is curious to note that all of these sources of peripheral irritation are distinctly hereditary in many families and as heredity is the most important etiological element in migraine, the relation between such conditions and the affection almost immediately suggests itself. The subject of migraine and neurotic equivalents is too large for discussion as a part of a paper on migraine. It is well known that certain of the minor neuroses occur in patients who suffer from migraine. The question of the relationship of migraine and epilepsy has been much discussed. They are certainly very similar, although the best authorities are now agreed that they are not the same affection. As to the connection between migraine and the gouty diathesis there is a good deal of difference of opinion. Trousseau thought that he never saw migraine without being able to find some traces in the individual of chronic gout. Moebius declares that he has never seen migraine in gouty patients. It is evident that the truth lies somewhere between these two extreme opinions. That both conditions are distinctly hereditary is, of course, well known to all.

Treatment.—Notwithstanding the number of drugs that have at various times been recommended as specifics for the treatment of migraine there are practically no pharmaceutic preparations that can be depended on either to relieve the symptoms or to increase the intervals between the attacks. The usual rule is that, after long experimentation with different remedies, victims practically give up drug taking and become resigned to sacrifice a day to the affection when it occurs. Various nerve sedatives serve to lessen the discomfort. Lithemia is set down by some as a cause of the disease and treatment for the condition is sometimes instituted with asserted success. Lithemia itself is, however, a most indefinite condition and the treatment is not very settled. Many cases of migraine are benefited by the oculist. About fifty per cent. of the cases will be at least improved by the correction of visual errors. Notwithstanding all that has been said of recent years with reference to the significance of muscular defects of the eye in connection with migraine, it is usually the correction of errors of refraction that brings improvement. There are certain cases, however, in which the correction of the muscle balance helps the migraine.

Is Migraine a Neurosis?—Dr. Wm. H. Thomson questions whether migraine is really a neurosis. It seems rather to be an intermittent toxemia due to specific poisons which are ab-

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sorbed from badly digested material in the intestinal tract, or to the imperfect neutralization of such toxic substances in the circulation by a defect in the ordinary antitoxic processes that accomplish this purpose. One thing is very queer. All out-of-door workers are exempt from the disease. While the affection is much more common in women than in men, it does not occur among women who work in the fields in certain countries. Its favorite victims are those who spend most of their lives indoors and at a sedentary occupation. Outdoor work prevents stasis in the portal circulation, while sedentary indoor occupations rather favor it. It is evident that there is here an important etiological factor in the disease. And the old idea that migraine is a pure neurosis must not be permitted to have too much weight either in the consideration of the pathology, pathogeny or treatment.

Migraine and Graves' Disease.—Migraine occurs much more frequently in people who are afflicted with Graves' disease than is usually considered to be the case. This connection between the two diseases serves to throw light on the etiology of both of them. Graves' disease itself is much more frequent than it is usually thought to be. The affection may occur entirely without exophthalmos and without any enlargement of the thyroid gland so that the name exophthalmic goiter is a misnomer. It is probable that there are at least as many cases of Graves' disease without prominent eyeballs and enlarged thyroid as with these symptoms. It has been the custom to speak of such cases as latent Graves' disease, but this name is unsuitable since there are certain characteristic symptoms of Graves' disease present which can easily be demonstrated. Out of sixty-five observed cases of Graves' disease thirty-two were without exophthalmic goiter, while thirty-three had these symptoms. All of the cases had the persistent tachycardia, which is so essential to the disease, and most of them had the nervousness, the tremor and the digestive symptoms. The nervousness of the disease is often described by patients as a sense of fear which they themselves feel to be without reason. The tremor is nearly always worse in the morning and may disappear towards evening. Of these sixty-five cases in only five was the tremor not worse in the morning. Vague peripheral pains are frequently present and sometimes there are spots of hyperesthesia. At times the ears are tender to the touch, and this symptom may be one-sided. The evil of naming an affection from some one prominent symptom which is not essential to the disease is brought out very clearly by the mistakes of diagnosis which occur with regard to Graves' disease. To the ordinary student and the general practitioner Graves' disease is exophthalmic goiter. Where these two symptoms, the exophthalmos and the goiter are absent, there seems nothing to suggest the diagnosis is Graves' disease. The same thing happens in locomotor ataxia when that disease begins without an incoordination of gait.

In four fatal cases seen in recent years all the patients suffered for a considerable length of time before the Graves' disease was recognized. All died by simple stoppage of the heart and without a struggle. Three had no goiter at the time of death.

Graves' Disease an Autointoxication.—It is now pretty generally conceded that Graves' disease is due to the presence of toxins in the circulation. It was formerly considered that these came from the enlarged thyroid, but this idea has been practically abandoned since it is now realized that Graves' disease exists without an enlarged thyroid. The most probably theory for the etiology of the disease seems to be that it is a malassimilation of nitrogenous material by the system, just as diabetes is a malassimilation of the starch elements of the food. The unassimilated nitrogenous substances are toxic and are ordinarily destroyed by the secretory activity of the thyroid, hence the frequent enlargement of this organ to meet the increased functional necessities. Sometimes the irritation of the thyroid instead of leading to hypertrophy, leads to atrophy of the gland with consequent myxedema.

In a recent case of combined Graves' disease and epilepsy, in which the patient had suffered from the age of seven until she was eighteen with epilepsy, the convulsions disappeared under treatment. Later exophthalmic goiter appeared and this has now given place to distinct attacks of migraine. Out of thirty-two observed cases of Graves' disease without goiter and thirty-three with goiter in twenty-six and twenty-eight respectively headache was present, and in 65 per cent. of all the cases this headache took on the distinct characteristics of migraine. A prominent feature of both migraine and Graves' disease is that they are associated with gastric disturbances. Both of them are distinctly influenced by heredity and occur by preference in neurotic families. Of all the pathological conditions that are inherited, gastric idiosyncrasies are the most common.

Migraine as a Neurosis.—In the discussion Dr. Charles L. Dana said that migraine is the most common of the neuroses. Probably every physician has either experienced it in person or has seen it in some of his ascendants or descendants. It is a discharging neurosis, involving higher nervous centers than does epilepsy. It is especially in the cultured that the sensory centers are liable to be unstable and it is in these particularly that migraine occurs. Eye treatment sometimes does good, but certainly not in more than ten per cent. of the cases that come to neurologists, although, of course, these are mostly cases that have been under treatment by others. The antitoxic treatment by the salicylates and resorcin undoubtedly does good. But this does not seem to be so much because these drugs prevent an autotoxemia, as because they lessen the irritability of sensory nerve centers. Migraine is undoubtedly common in Graves' disease and the calling attention to this fact is of great practical

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interest. The connection between the two diseases, however, does not militate against migraine being a neurosis. The fact that it has certain neurotic equivalents shows that it is surely of nervous origin. Every neurologist has seen the attacks of migraine occasionally replaced by such purely nervous affections as ptosis or Meniere's disease. Dr. Sachs said that to consider migraine as a toxemia rather than a neurosis is purely speculative. While many people suffer from toxemia only certain people with a predisposition have attacks of migraine. The neurotic equivalent for migraine seems to show that it is certainly a neurosis. In a recent case, after the disappearance of epilepsy, migraine asserted itself. Whether the opposite ever happened is not very clear. The relation of migraine to Graves' disease is problematic and the two occur together rather rarely. To call tachycardia, without any other symptoms Graves' disease is at least risky. Other symptoms are necessary for the diagnosis.

In closing the discussion Dr. Thomson said that simple tachycardia never means Graves' disease for him. There must always be present certain other characteristic symptoms, such as tremor and the digestive symptoms, either diarrhea or constipation, with the vague pains and paresthesia of which previous mention had been made.

NEW YORK ACADEMY OF MEDICINE—SECTION ON SURGERY.

Stated Meeting, Held January 8, 1900.

Charles N. Dowd, M.D., Chairman.

Aneurism of the Innominate.—Dr. Fiske presented a woman, forty years of age, who first began to complain of symptoms in her thorax last March. There is now a distinct tumor to the right of the sternum in the subclavicular region, in which there is marked pulsation and a distinct aneurismal bruit. There is also some difficulty in swallowing and some huskiness, showing involvement of pharyngeal and laryngeal nerves. The patient has been under medical treatment since last March, but has not been benefited.

Dr. Bolton said that gelatin injections had been tried in this case, but without benefit. They had been tried also in four other cases and in none of them had the beneficial results claimed by the French surgeons been secured. They gave great pain and sometimes caused distinct rises of temperature. It is evident that they are not entirely without danger since after one injection the temperature rose to 104° F. At the Hudson Street Hospital the conclusion is that the gelatin treatment is of no service.

Sarcoma Cured.—Dr. Coley presented a patient who developed some four years ago a tumor of the parotid gland. It was removed and proved to be a sarcoma. It recurred in the same situation and was again removed. It then not only recurred in the parotid, but also in the sublingual and in the submaxillary glands. When the tumor reached a circumference of from three to four inches and extended from the auditory meatus almost to the angle of the mouth, it began to ulcerate. The patient was then sent to Dr. Coley and he found in addition to the parotid tumor a submaxillary tumor the size of a hickory-nut. It was hopeless to operate again and so the mixed toxin of erysipelas and the bacillus prodigiosus were injected. As the case was a very severe one the injections were made directly into the tumor and in very large doses. There was considerable reaction after the injection, the temperature on several occasions going as high as 104° to 105° F. Slight improvement in the symptoms and some diminution in the size of the tumor were noticed at the end of a week. In ten weeks the growths had completely disappeared. It is now two and one-half years since the beginning of the treatment and there has been no recurrence. The man is in perfect health and there is only a scar to mark the place where the ulceration occurred on the surface of the tumor.

Dr. John A. Wyeth asked if Dr. Coley thought that the infective agents at work in such a case might not have something to do with the cure. When tumors are suppurating the injection of toxins often leads to an increase in the virulence of the suppurative process already existing. The absorption of infective material from a suppurating focus might be the real agent at work. Dr. Coley replied that where suppurating foci exist he is always careful to cleanse them as thoroughly as possible and that his experience does not show that such suppurative processes become more intense while the injections are being made. In a recent case he had the opportunity to assure himself that cure took place absolutely without the presence of any infective agent. In the mixed toxins the bacilli are carefully removed before injection. A large tumor of the thigh gradually disappeared under the injection of the toxins with the production of certain cystic cavities. From these cavities broken-down tumor débris was removed by aspiration and absolutely no pyogenic agents could be demonstrated in the material so removed.

Dr. Wyeth reported a case of a large tumor of the abdominal wall in which Dr. Welch, Dr. Wardwell, of Cohnheim's laboratory, and himself, had each independently made the diagnosis of sarcoma. It was so large that it seemed hopeless to attempt to remove it. At the time certain cases of sarcoma had been treated with reported success by injections of arsenious acid. The remedy was tried. It set up an intense inflammatory process. Septicemia developed and for a while it seemed as though the case would inevitably terminate fatally. After being very low, however, the man began to recover and with his recovery the tumor began to disappear. When convalescence was complete no sign of the tumor was left. That was fifteen years ago. The man

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is alive and well, in one of the Southern States and is able to do a hard day's work. In a case that came under observation about eight years ago an immense tumor of the omentum was present. This pressed on the portal vein so much that ascites developed and the patient had to be tapped every few weeks. An exploratory laparotomy was done although there was scarcely any hope that the tumor would prove operable. The growth was found to be a very vascular neoplasm with large thin-walled vessels running over its surface. The neoplasm was so succulent that no section of it was made for purposes of microscopic examination. Whether it was a sarcoma then or not, was not certain, but it had all the clinical signs of a sarcoma. The wound was left open and the tumor exposed to the air, the general abdominal cavity being protected as well as possible by packing. Suppuration took place and the tumor gradually disappeared. The patient is now living and no signs of the tumor remain. It would seem, then, that while there is no doubt that the toxins of various micro-organisms can produce a beneficial effect on sarcomatous tissue and cause its disappearance, this may also happen as the result of the presence in the circulation of materials absorbed from ordinary infective processes. What element in the infection it is that causes the disappearance of the sarcoma is as yet in doubt. The subject is well worthy of a further attentive study. Dr. Coley is to be congratulated on the light he has thrown on this subject, and the excellent work he has done in bringing the matter before the profession in America in a thoroughly scientific manner.

Intestinal Resection; Recovery.—Dr. Coley presented a patient, a physician, forty-three years of age, who in May, 1899, suffered from a series of attacks apparently of chronic appendicitis. An operation for this was performed and it was found that the cecum was infiltrated with neoplastic tissue which had also spread to the small intestine. The removal of the whole growth seemed too radical a procedure, so nothing was done. Some weeks later the whole mass was removed. The ilium was resected in its continuity and an end-to-end anastomosis made with a Murphy button. After the removal of the cecum the ascending colon was closed by a row of sutures and also the distal end of the ilium. Then the two structures were connected by a lateral anastomosis, for which an oblong Murphy button was used. Recovery took place without an incident and on the tenth day both buttons came away. There have been no symptoms since except that occasionally after meals there is an accumulation of gas which can be relieved by simple external manipulations. The patient has regained his health, strength and weight. There are no signs of the recurrence of the growth and allowing for the short time elapsing it would seem that a radical cure has been effected.

Aortic Aneurism.—Dr. John M. T. Finney of Baltimore read a paper on the treatment of this condition, which he thinks should be surgical. The Tufnel treatment has benefited some cases, but they are very rare. The cures that have been announced are even rarer and we have not any assurance as to their persistence. For vessels of medium size it is questionable if any treatment except operation is justified. The Hunterian operation in these cases gives excellent results. As to aneurism of the abdominal aorta, this is very different. Nine cases in which the abdominal aorta has been tied have all proved disastrous. A case in which Keen tied the abdominal aorta and in which the patient survived is reported. This case is a recent one, however, and the details are not substantiated. MacEwen's operation of needling the internal wall of the sac, so as to lead to the formation of an internal thrombus sometimes gives good results, but it is slow in its operation and cannot always be relied on.

Gelatin Injections.—The injections of gelatin suggested by the French surgeons have not proved as successful as was promised. The brilliant results have been obtained nowhere else. Dr. Futcher has experimented with the method at Johns Hopkins Hospital in nine cases. In six of them the treatment has been carried on for a sufficiently long time to give definite conclusions as to the value of the procedure. No positive cures have been obtained in any of the cases. In one there was diminution in size of the aneurism. In five cases the patients were subjectively better. The injection of gelatin did not add to the coagubility of the blood. This was demonstrated by careful tests. Despite Lancereaux's assurances that the injections produced no discomfort, they were usually accompanied by considerable pain and sometimes followed by fever. There was never any local suppuration and only in one case was there a local reaction. The gelatin method does not cure, but it is of some value in certain cases. In conjunction with the wire method it is better than either one of them alone. Where it seems inadvisable to use electrolytic methods hereafter, it is advisable to combine these two methods.

Coiled Wire and Electrolysis.—The most effective treatment for aneurism is undoubtedly the insertion of wire and the electric current. As to the wire that should be used it has been found at Johns Hopkins that a silver alloy highly drawn is the best for this purpose. The alloy is composed of 75 parts of copper to 1000 parts of silver. When highly drawn this wire, unlike pure silver, retains considerable tendency to coil within the sac and yet is more pliable than any other form of wire, so that there is much less danger of puncturing the sac. If anything causes the wire to become blocked or it kinks another needle may be inserted at some little distance from the first and wire passed through this. If there is a multilocular sac a series of wires may be passed. The direction of the wires should as far as possible be away from the neck of the sac and in the same direction as the incom-

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ing current of blood. The positive pole should be attached to the wire within the sac, not the negative pole. The negative pole causes the formation of a clot which breaks down easily.

Danger and Results.—Sepsis is the omnipresent danger in wiring an aneurism. The point of insertion of the needle should be rendered as aseptic as possible. There is some danger of the development of an additional aneurismal sac by a change in the direction of the blood stream and the setting up of a current against a part of the sac which was not acted on before. The current should not be allowed to act through the needle itself. For the purposes of insulating the needle it has been found that a French lacquer acts very well. At times the wire passes out of the sac itself and causes complications by the formation of clots in the blood stream which may give rise to thrombi in the general circulation or interfere directly with the heart action or with the valves. In some reported cases the impinging of the wire on a valve has caused death. In others the interference with the valvular mechanism has led to syncope. It has been said that the presence of a distinct double diastolic and systolic sound shows that the sac has a small opening. Halsted, however, found on autopsy in a case in which there had been a distinct and characteristic aneurismal bruit that the opening was a large one, so that this diagnostic rule does not hold in all cases. The danger of perforating the sac has been exaggerated. As a matter of fact, when suitable wire is used it coils up and does not produce the slightest traumatism.

The reported results of the use of wire and electrolysis on large aneurisms certainly justify the continued employment of this method of treatment. At least twenty per cent. of the reported cases have been cured. Dr. Stewart of Philadelphia wired one of his patients three times and the patient felt better each time. Hare's case has continued well ever since the operation. In other recent cases persistent results have been at least as good. The great drawback, so far as statistical hopes are concerned, is that the cases which are wired are not selected cases, but are hopeless cases in which a fatal termination seems not far off unless something is done. As a matter of fact, wiring completely changes the aspect of some of the patients and makes them hopeful. One patient was a most pitiable picture. He could not lie down at all, but took whatever rest he could get sitting bolt upright and there was a continued feeling of the most severe discomfort. At the present time this patient can lie down and considers that he has been practically cured. In another case the right chest filled up frequently with fluid and required repeated tapping. The accumulation of fluid in the pleural cavity is now much less than it was and tapping is not so frequently required.

Distal Ligatures for Aneurisms.—Dr. Wyeth discussed some of the older methods of treating aneurisms and their successful application. In one of the old cases Sands tied the subclavian and carotid arteries of the right side. The tumor diminished in size and all visible pulsation ceased. For some time all the subjective symptoms disappeared. After three months there was a recurrence with fatal termination. In the same way the common carotid has been tied with the induction of undoubted relief. In a number of cases within the past fifteen years distal ligature has been accomplished successfully, both as regards the operation itself and its effect upon the aneurism. Even where the innominate was involved in the aneurism, such ligations have been successful, so that they are not contraindicated under these circumstances. This method of treating aneurism should not be allowed to sink into desuetude. His experience with wiring has not been very great. Once by a method analogous to the use of wire the life of a patient was saved. He was a young man of twenty-four who came to the Polyclinic with a huge pulsating tumor in the upper part of his thorax. There was a balloon-like dilatation of the skin, the aneurism having fretted its way through the sternum and through two ribs. It seemed to be on the point of bursting and quick action appeared to be demanded. Some harelip work was being done that afternoon and twenty-five sterilized harelip-pins were at hand. One by one these were plunged into the tumor, just as if it were a pin-cushion. Eighteen hours later they were removed. The effect was excellent. The tumor sank almost to the level of the thorax, having bulged out a great deal before, and the subjective symptoms were much lessened. Twenty-four hours after their removal they were once more inserted and left in for twelve hours. Then the patient was kept absolutely at rest and put on potassium iodide for some time. The pulsation disappeared and the patient remained comfortable and was able to work as a painter for a year and two months, when he died suddenly, apparently from cerebral embolism. Before the introduction of any foreign body into an aneurism, however, a thorough trial of the Tufnel treatment is advisable. The prophylactic treatment of syphilis should be borne in mind and extensively taught to the public.

THE CHICAGO MEDICAL SOCIETY.

Recent Meetings.

Blastomycetic Dermatitis.—Dr. Henry G. Anthony reported an interesting case of this disease before the December meeting of the Chicago Medical Society. The report of the pathologist, Dr. M. Herzog, on this case is as follows: "Histologically, the tissue presents a proliferation of the epithelial elements, which proliferation extends downward into the connective tissue in the form of pegs, such as are seen in skin cancers. The following may be points of differential diagnosis between skin cancers and blastomycetic dermatitis. In the latter epithelial cells are

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not cut off anywhere from the surface in the form of closed alveolar nests, nor do the proliferated epithelia become hornified. That seems to be quite an important feature. In skin cancers the proliferating epithelium shows an early tendency to become hornified. In the sections of this case, we do not see any true epithelial pearls. In the epithelial masses you see small miliary abscesses which contain leucocytes, ordinary polymorphous leucocytes and a great number of eosinophilic leucocytes; it is particularly in the miliary abscesses that the yeast cells are found in the shape of double contoured bodies. The cutis proper is characterized by a great deal of inflammatory reaction, and among the cells infiltrating the tissues are a large number of typical plasma cells. I have also found in some of the miliary abscesses giant-cells of a type such as are found in tuberculosis. I have stained and examined sections for tubercle bacilli and other bacteria, but have not found any. I must also say that I have not found anywhere anything characteristic of syphilis, but as I had only a very small piece of tissue, I could not make any special stains for syphilitic lesion.

"The histological features which are found are absolutely in accord with the pathology of the cases of blastomycetic dermatitis described by Hyde, Bevan, Hektoen, Gilchrist, Buschke and others."

Goiter with Recurrent Paralysis.—Dr. A. C. Klebs presented a patient with a "forme fruste" of exophthalmic goiter with tracheal stenosis and recurrent paralysis. The patient was a young man, twenty-two years of age, in whom, of the three cardinal symptoms of Graves' disease, only the struma was well-defined. Pulse ranged from 92 to 102. Exophthalmus was not very marked. The signs of Stellwag, Graefe and Moebius were absent. There was a slight tremor of the hands, and inclination to perspiration, palpitation, nervous irritability and headaches. The struma was rather hard and pressed on the trachea, which was bulged in; there was paralysis of the left posticus, hence difficulty in respiration (stridor) and phonation. There was no distinct improvement after five weeks' rest. Iodides and faradism have been resorted to without much benefit. The author believes that partial extirpation of the struma is indicated.

Gunshot Wound of the Abdomen.—Dr. Jacob Frank reported this case at a meeting held January 10th. The patient, Mrs. A., mulatto, aged twenty-three years, and was admitted to the German Hospital July 26, 1899. She was accidentally shot with a 38-caliber revolver about 1:30 P. M., and was brought to the hospital four and a half hours later. The bullet entered the abdomen in the left hypochondriac region, two inches below the last rib on the left axillary line. No wound of exit was found. She complained of slight pain, which was referred immediately back of the point of entrance of the ball in the region of the kidney and about the uterus. She thought the pain about the uterus was due to menstruation, but as the bullet was found in the cul-de-sac of Douglas, the increase of pain is well accounted for here. The patient was in good condition; the pulse strong and regular; no emesis, faintness nor dejection from the bowels. There had been but little hemorrhage; no distention of the abdomen, and percussion and palpation failed to locate the bullet. From the position in which the bullet left the pistol and from its entry, it was determined that it would be almost impossible for the ball to travel in said direction without injuring the intestines. The patient was anesthetized, the bullet wound was enlarged and the finger introduced with the hope that the track of the bullet might be followed. Failing to detect the ball, or an opening in the peritoneum, an incision six inches long was made to the left of the median line on the outer border of the rectus muscle, beginning one and a half inches above the umbilicus and extending downward and inward toward the mons veneris. Upon opening the abdomen a small quantity of fluid and some blood were found, but no escape of intestinal contents. The patient was eviscerated from the pylorus, the parts being protected by warm towels, the injuries to the intestines being noted and marked with a piece of gauze pushed through the mesentery. Examination showed that the bullet, after penetrating the walls of the abdomen and perforating the walls of the small intestines besides bruising two or three other portions, as was shown by a marked ecchymosis, had dropped in the cul-de-sac of Douglas, whence it was extracted. A small bleeding point was found a short distance away. It was found impossible to repair the perforating wound with sutures in the gut. Resection was therefore made and a one and one-eighth inch Frank's coupler introduced and the anastomosis completed in the usual way. The bruised portions were closed with Lembert sutures. A gauze drain was introduced in the bullet wound incision. At the upper end of the laparotomy incision, a gauze drain was inserted, and at the lower end a modified Mikulicz drain was introduced into the cul-de-sac and removed after thirty-six hours. There was very little shock following the operation, and the patient rallied nicely from the anesthetic. Her recovery was uneventful, and on October 8, 1899, thirteen days after the anastomosis, the piece of rubber tubing was passed. The patient left the hospital October 23, 1899, and has enjoyed her usual health ever since.

Venous Angioma.—Dr. D. N. Eisendrath presented a case of congenital nevus, involving all of the fingers of the right hand in a child five years of age.

Gangrene Following Schede Operation.—He also presented a case of gangrene of the foot following a Schede operation for the relief of varicose veins combined with ligation of the internal saphenous vein. The patient was forty-three years old, moderate drinker, with no history of venereal disease, but with well-advanced arteriosclerosis. The urine was free from albumin or

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sugar in a number of examinations. The above operation was performed in December, 1898, shortly after which the patient had severe pain in the second toe, which became black and lifeless about four months after operation, necessitating its removal. The wound never healed, and in May, 1899, the third toe had become dark bluish-red in color, and the former amputation surface black. There was also a black irregular shaped patch extending upward on the dorsum of the foot about three inches long and about one inch wide. Palliative treatment being of no avail, it was necessary to perform a Pirogoff amputation in June, 1899. Patient presented himself to Dr. Eisendrath about two weeks ago. The amputation stump at this time was dark bluish in color, and there was an ulceration at the apex of the stump, so that it looked at first as though an amputation higher up would be necessary. The limb was edematous below the level of the Schede operation. There were no traces of any varicose veins. There had never been any ulceration. The patient was not shown to throw discredit upon this operation, which has given most excellent results in the majority of cases, but simply to call attention to the fact that it may be, at times, followed by complete venous stasis and gangrene, and that the operation is not to be advised when there is much arteriosclerosis, or when the return circulation will be at all impeded.

Unilateral Surgical Kidney.—A third case was that of a patient who had been operated upon one and one-half years ago on account of a pyelonephritis, with excellent recovery. The other kidney had remained apparently normal and the urine was clear. The patient had been treated with antitoxin for diphtheria since that time, and had also undergone an operation for cystic ovary. The case was chiefly instructive on account of the fact that the general teaching is that surgical kidney is most frequently bilateral, and such cases as the above show that nephrectomy for such conditions offers a good prognosis. A specimen of surgical kidney was also shown, which had been removed at autopsy from a woman who had suffered from a cystitis and in whom the opposite kidney was also found to be perfectly normal.

At the meeting held January 17th there was a symposium on disinfection.

Preparation for Disinfection.—This was discussed by Dr. C. Fenger. In preparing a patient for an operation it is customary to have him or her in the hospital for from twenty-four to forty-eight hours previous to operation, the object being threefold—mental, physical, antiseptic. During this preliminary stay in the hospital the patient has an opportunity to become accustomed to hospital-life, and to overcome anxiety. The patient rests in bed or lounges about the room as inclination or circumstances may dictate. Few, if any, visitors are admitted. During this time the physicians in attendance become acquainted with and accustomed to any peculiarity or idiosyncrasy which may prove of aid in the after-treatment. The stomach and intestinal tract should be carefully looked after and efforts made to correct any abnormality or irregularity in their action. There is no difficulty in getting absolutely sterile instruments, ligature and suture material, sponges, dressings, clothing, etc. The real danger of infection is in the incised skin of the patient or in the hands of the operator or his assistants. The chief aim in the preparation of the skin is the mechanical removal of the masses of loose epidermis with bacteria. This is best accomplished by means of soap and water and a stiff nail-brush. Too much confidence is placed in so-called antiseptics. To a greater or less extent they are all poisonous, and if used in a solution of sufficient strength to kill germs will do damage to the tissues with which they come in contact, and if so weak as not to cause damage to the skin, are frequently of little or no value as bactericides.

Schleich's Skin Sterilization.—Dr. E. Wyllys Andrews read a short paper on this subject. Exhibition of Schleich's marble dust soap was made, and its use illustrated. Schleich lays down the emphatic rule that brushes should never be used, as they are incapable of being cleaned and therefore become "labyrinths of filth and slime." In his method chemical antiseptics are given an unimportant place. They tend to injure the skin and do not effectually sterilize it. The properties required in a good soap are: (1) Sterile materials; (2) detergent properties, hence the use of marble dust; (3) some ammonia to act as a liquefying agent or flux, the soda or potash being too hard when saponified; (4) fat emulsifying power to carry away the waxy deposits of the skin (cholestrin, keratin, etc.), for which purpose he introduces what he calls "stearin paste"; (5) wax, free in the mass, to leave the skin anointed, for which purpose so-called "cerate paste" is put in the soap; and (6) sterile running water.

The soap is a white paste of gritty feel. It is applied by rubbing with squares of sterile gauze made into small napkins. A wax-like feel is left after it has been washed away. Personally, Dr. Andrews testified that it is less irritating to the skin than green soap used with a brush.

Operator and Assistants.—The following method is practised by Dr. Jacob Frank in his work at the German Hospital: The operator and assistants change their garments, putting on white duck trousers and sterilized shirts. The head and beard are covered by sterilized gauze. The operator and assistants scrub their hands and forearms for fifteen minutes with sterilized green soap and running water, finger-nails having been previously cut short, are cleansed by nail-file. If the operation is a laparotomy, the hands are sterilized by being immersed in a saturated solution of potassium permanganate, followed by a warm saturated solution of oxalic acid. This is followed by sterilized lime-water, and lastly sterilized water, known as Kelly's solution. In all other cases Kelly's solution is omitted. The

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hands are scrubbed from three to five minutes in a $^1/_{1000}$ bichlorid of mercury solution, followed by alcohol and sterile water. Rubber gloves are used in all operations. The operator and assistants disinfect their hands in the same manner and for as long a time as if the gloves were not used. The gloves are first thoroughly washed both inside and out in a one-per-cent. solution of sodium carbonate, then rinsed in sterile water and dried by holding over a gas flame for one minute, reversing once. The inside is dusted liberally with soapstone powder which has been previously sterilized by dry heat for two hours. The gloves are wrapped in a double layer of gauze, marking the size on gauze, and placed in a formaldehyde sterilizer for two hours. After removing the gloves from the sterilizer they are wrapped in a sterile towel, the size and date of sterilization being marked on outside of towel. After the hands have been disinfected, as already stated, they are dried in sterile towels, the field of operation is prepared by a second nurse, and covered by laparotomy sheet or sterile towels, the operator and assistants putting on sterile gowns. Everything being ready to begin the operation, the gloves are slipped on. The object of such thorough preparation of hands previous to operation is that in case the gloves become torn during the operation, the hands still remain sterile. Sterilized finger-cots are always on hand in case the finger of a glove becomes torn. This method of sterilization of gloves has been found to be far superior to all others. In the first place, the gloves are sterile. Cultures have been made repeatedly, immediately and two weeks after sterilization, and they have shown absolutely no growth of life. Pure cultures of staphylococci, streptococci, bacillus coli, Klebs-Loeffler bacillus, bacillus typhosus, bacillus pyocyaneus, etc., after having been passed through the formadehyde sterilizer, have shown no life. In case of abrasions of forearm, rubber armlets are used, which are sterilized in the same manner as the rubber gloves. After the gloves have been used they are re-sterilized.

Woven Gloves.—Dr. Coleman G. Buford, a former assistant of Professor Fenger, after nearly two and a half years of observation of the use of gloves in Professor Fenger's operations, concludes that woven gloves have a place in dry operations, and that the outer surfaces of dry gloves usually remain sterile throughout the longest operations. He perfers cotton to silk gloves, but recommends above all the use of rubber gloves, because of their impermeability. Both the woven and rubber gloves are sterilized in any of the usual ways, except that he advises against boiling the rubber gloves in soda, or in carbolic acid solutions stronger than two per cent. A hundred and twenty-five bacteriological examinations were made, and the writer's conclusions are that, in proportion to the work and responsibility of those engaged in the operation, there is a relative increase or diminution in the frequency of cultures from the inner side of the gloves. This is probably due to reinfection of the surface by bacteria brought from the sweat-ducts, glands and hair follicles by perspiration sponsibility of those engaged in the operation, gloves were infected in 66⅔ per cent. of the cases, while the least active person, the nurse handling sutures, ligatures and sponges, had no cultures from the inner side of her gloves. A total of 63 cultures were made from the inside of the gloves of all participants, and there was infection in $28\,^4/_7$ per cent., while of the 62 cultures made from the outside, only $9\,^{21}/_{31}$ per cent. were infected, and the latter occurred with no more frequency in the case of the operator than with the assistants. Staphylococcus albus was the only microbe found. The writer reports but one case of accidental infection during the use of the gloves—a mild albus infection of an inguinal hernia. Stitch-hole abscesses are almost a thing of the past, and wound healing is more perfect and speedy than when the gloves are not used.

He suggests that, in addition to the gloves, the operator sterilize his hands in his own accustomed way, then sweat the hands and forearms for fifteen minutes by immersion in hot water or exposure to dry steam, a second hand sterilization and sweating, then a final hand sterilization. This has been proven worthy of consideration by experiments of Dr. Leonard Freeman; that woven finger-cots be worn by the operator over the glove-fingers on each thumb, and one or more chosen fingers to facilitate in handling tissues, to prevent cutting by ligatures; and that, finally, sterilized armlets of rubber or cloth be used to cover the arms and enclose the glove gauntlets to prevent leakage of fluids from the gloves into the operative field and to prevent contact of gloves with neighboring forearms.

Surgical Disinfection in the Augustana Hospital.—The following conclusions expressed the views of Dr. A. J. Ochsner: (1) Theoretically, it is almost impossible to thoroughly and absolutely disinfect the skin of the patient and the hands of the operator. (2) Practically, it is one of the easiest and simplest tasks to obtain a degree of surgical cleanliness that will insure primary wound healing. Theoretically, strong chemical disinfectants are indicated for the purpose of disinfecting the hands. Practically, careful washing with the mildest soap and water and alcohol is absolutely sufficient and very much safer for the patient, because hands roughened by the use of strong antiseptics are much more likely to become hopelessly septic than those which are covered with smooth, healthy skin. (3) It is extremely simple to keep the hands aseptic after they have been rendered so. There is no more difficult task in any clinic than to keep all interested hands clean after they have been disinfected. (4) Sutures passing through the skin and the deep tissues underneath are a menace to the patient, because they form a direct communication between the skin, containing staphylococci, and the deep tissues, which are primarily sterile. These stitches never cause an

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infection unless drawn too tightly, in which case the resulting pressure necrosis is the cause of the mischief, because it furnishes these micro-organisms dead tissue to thrive upon. Catgut sutures and ligatures are objectionable. Practically, if applied properly, thev are absolutely satisfactory. (5) Theoretically, it is as safe to operate clean cases after dressing suppurating wounds as at any other time. Practically, surgeons who follow this practise always have a great amount of wound infection.

Dr. W. E. Schroeder gave his views on the construction of an operating-room, its furniture, the management of jars, towels, sheets, gowns, rubber aprons, Kelly pads, and a number of small details.

Drainage.—Dr. A. E. Halstead spoke on this subject, saying that the subject of drainage of wounds naturally falls into two divisions. (1) The drainage of wounds which are surgically clean, or are supposed to be such; (2) the drainage of wounds which have been infected, or which are made to relieve suppuration or septic conditions.

While there are certain advantages to be gained by the drainage of some aseptic wounds, excellent results are obtained in the majority of cases without resorting to drainage. When it is remembered that in an aseptic wound, in which no antiseptic fluids have been used, there is in a large majority of cases but little oozing. and also that healthy tissues can take care of a large amount of extravasated blood and lymph, the necessity of drainage of clean wounds will appear pressing in only a few cases. He therefore limits drainage among the clean cases to the following varieties: (1) In those cases where there has been much traumatism to the tissues and where large areas of lymphatic vessels have been opened oozing may be expected, and it seems desirable to prevent the collection of such fluid in some dependent part of the wound. (2) where there remain at the termination of the operation so-called dead spaces which cannot be obliterated by deep sutures or other means. These are apt to act as receptacles for any serum or lymph which may escape from the lacerated vessels and which might then furnish a culture medium for some of the bacteria which may be found in almost any aseptic wound. How long should the drain be left in the wound? In his opinion, twenty-four hours is sufficiently long in almost all cases for the following reasons: (a) If the wound is aseptic, all oozing will have practicaly ceased by this time. (b) If any dead spaces had resulted from the dissection, the tissues will have had ample time to adapt themselves to each other and the cavities will be found nearly obliterated. (c) After twenty-four hours the drain frequently ceases to act as such, the meshes of the gauze being filled with coagulated lymph serum, etc., or, if tubular, the lumen will be frequently found obstructed in a similar manner. The opening in the wound is thus plugged and the drain worse than useless. (d) If removed at the end of twenty-four hours, it will be almost never found that infection has traveled along the path of the drain, an accident likely to occur if the drain is left undisturbed for a much longer period.

In the second class, namely, infected wounds and those made to relieve a septic focus, drainage is demanded almost without exception. Drainage of abscess, empyemas, suppurating joints, etc., is effected in the location which gives the best possible escape to the secretions. To summarize, he uses drainage in the following varieties of cases: (1) When pus is found in the free peritoneal cavity, as in acute diffuse suppurative peritonitis. (2) When there is localized pus formation in the free peritoneal cavity, such focus being walled in by the viscera and adhesions uniting the adjacent viscera. This includes cases of appendicular abscess and pelvic abscesses from pus-tubes, ovaries, etc. When operation is done to remove a collection of pus within a hollow viscus, as a pyosalpinx, or an appendix distended, but not yet ruptured, it is a rule to close the abdominal cavity without drainage unless it has become contaminated by pus by the rupture of the viscus which is undergoing removal.

Irrigating Fluids in Abdominal Cavity.—This subject was discussed by Dr. J. B. Murphy, who said that the purpose of irrigation is, first, to remove foreign material from the abdominal cavity; second, to dilute the poisons in this cavity; third, to prevent adhesions, and, fourth, to prevent or stop shock. For the prevention of shock, irrigation is of little or no value More effective means are now found in intravenous saline injections. The primary purpose of abdominal irrigation is to remove aseptic materials from the abdomen, post-operative, that is, blood, fragments of tissue, cyst contents, serum, etc. Blood-clots can be removed with dry aseptic sponges better than by irrigating fluids.

THERAPEUTIC HINTS.

For Membranous Scarlatinal Angina.—

℞ Cresoti .... ℥ xvi
Thymol ..... gr. xvi
Spts. Camphoræ ..... ʒ iss
Ol. Terebinth ..... ʒ iss

M. Sig. External use.

This can be used either for spraying the pharynx and nasal cavities for 10-20 seconds every two hours, or for inhalation from a flask provided with two glass tubes. In twenty-four hours the mucous membrane will appear more normal and the false membrane will begin to loosen, evidencing an improvement which progresses steadily. This treatment does not at all preclude or interfere with the use of antiseptic gargles or lavage of the nose or throat or with internal medication.—*Malinowskly.*

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ORIGINAL ARTICLES.

THE RELATION OF THE CLINICAL LABORATORY TO MODERN SURGERY.[1]

BY WILLIS G. MACDONALD, M.D.,
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THERE is an impression current in the minds of many that the responsibility of the modern surgeon is not as great as that of his predecessor. A little reflection will show, however, that that very desirable condition does not exist. The loss of a patient from septic infection after an uncomplicated compound fracture will not be as readily forgiven to-day as it was thirty years ago; nor would eleven deaths from sepsis after seventeen amputations done in a year be viewed with complacency either by hospital boards, the profession or the people. Yet surgeons in the not-too-remote past maintained themselves in high positions with so serious mortalities for which they were not held accountable.

Modern surgery is largely a surgery of election. Operations are undertaken because of the safety of the procedure on patients who might live several years without surgical intervention. The loss of a patient from sepsis after a hysterectomy for small fibroid tumor, or after an interval operation for appendicitis is too deplorable to contemplate. These operations were not done by our predecessors and they assumed no responsibility in the matter.

Pasteur studied the organisms found in the secretion of wounds and cultivated them, but it remained for Koch to so develop bacteriological technic that through improved methods he was able to differentiate the micro-organisms of the infectious diseases. Bacteriological investigation of other sources of septic infection than the air were now pursued with great enthusiasm and their well-nigh universal distribution found. No one appreciated more fully than Mr. Lister the importance of these discoveries, and at the close of an address by Pasteur, at the Seventh International Medical Congress, he took occasion to congratulate both Pasteur and Koch on having established beyond dispute, through laboratory research, the first principles of modern surgery.

Schimmelbusche, appreciating the importance of this form of investigation, organized a bacteriological laboratory as an adjunct to the surgical clinic and was among the first to undertake routine bacteriological provings in general surgical work. The results of his investigation led to the development of the aseptic technic of Von Bergmann in contradistinction to the antiseptic technic of Lister. It was my privilege to assist Schimmelbusch in his early efforts and the detail arranged by him will now serve for all necessary requirements.

The continued provings, by cultural methods, of our surgical technic is a first requisite for work of a high standard. However much surgical technic of different surgeons may differ in detail, it has its primary basis in the laboratory. To establish a given method of sterilization as effectual by a single series of cultural provings is not sufficient. It will be found that unless a culture is likely to be taken at any time from any package of dressings, sutures or other materials, variations in the methods of sterilization may be made by the nurse or assistant. It has been my practise to take at irregular intervals, and without notice, provings from the operating-room, from the dressings, sutures, ligatures, towels, instruments, water, hands of the operator and assistant and skin of the patient. In aseptic cases these cultures are taken at the end of the operation instead of the beginning. If, from any portion of the hospital an unusual number of failures present, the head-nurse is informed or an investigation inaugurated. In addition, cultures are taken from the nurse's hands having charge of the preparation of the patient. The professional pride shown by the nurses in the work is very gratifying. While developing colonies occasionally adds a sorrow, yet it is soon dissipated by subsequent successes. In this way a high standard is established and a proper *esprit de corps* maintained. Nor is this all the advantage acquired. We hope finally to be able to establish a method of skin disinfection, which is uniformly effectual with the minimum discomfort to the patient.

The uniform disinfection of the hands of the surgeon and his assistants by any method is settled negatively in my mind. Out of several hundred cultures taken, a sufficient number developed colonies under the most unexpected circumstances to demonstrate the necessity of rubber gloves in order to exclude a serious menace to the patient. They are now worn at all operations regardless of their character and in the final preparation of the field of operation. All dressing of septic wounds is made with gloves. It is only proper in this relation to refer to the fact that catgut for sutures and ligatures should never be employed without cultural provings of each portion after fresh preparation.

The whole fabric of surgical technic depends for its efficiency upon the routine laboratory investigation and upon nothing else. The utility of the laboratory in arresting what may be called

[1] Abstract of the President's Anniversary Address delivered at the ninety-fourth annual meeting of the Medical Society of the State of New York, held at Albany, January 30, 31, and February 1, 1900.

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septic storms is unquestionable. Occasionally a series of infected cases will present themselves, although great care is exercised. This is not an isolated experience, but occurs in many of the best clinics under the most careful surgeons. In my experience it is usually a staphylococcus pyogenes aureus infection of a virulent type. The condition requires a most searching investigation, and that major surgery be made to remain in abeyance until the infection is traced to its source and destroyed.

Nor is the utility of the laboratory ended here. In the investigation of obscure genito-urinary diseases it is most useful. The exclusion of early renal tuberculosis requires all the refinements of modern methods of investigation. The evidence of cover-slip staining, culture and animal inoculation may be required in order to demonstrate or exclude the disease. The further exact methods of diagnosis are frequently sufficient to indicate the necessity for early and successful operative intervention in cases in which under ordinary conditions delay might involve grave danger to the patient.

Delayed shock and fat embolism have been a very present refuge in cases of overwhelming sepsis or intoxication. Delayed shock is not shock—it is either hemorrhage or sepsis; nothing else. All the cases of delayed shock that have come either directly or indirectly under my observation were either confirmed as sepsis or hemorrhage at autopsy or were buried with such unseemly haste that no examination could be made. There can be no doubt that fat embolism does occasionally occur, but it is rare. Frequently obscure general infections not associated with pronounced symptoms terminate fatally very suddenly. It has been my misfortune to see a fatal post-typhoid infection after an operation for extra-uterine pregnancy in a patient already convalescent from the fever.

The bacillus pyocyaneus is capable of originating a general septic process, the symptoms of which are not sufficiently uniform to permit of general classification. Cultural examination of the blood has frequently demonstrated the condition. In other obscure septic processes, more especially those with no demonstrable points from which the infection was introduced, cultures taken from the blood will demonstrate the nature of attending joint involvement. Information of much prognostic value is often obtained in this manner. Patients do not recover when there is either a general streptococcus or staphylococcus infection, but may when the infectious bacterium is the bacillus pyocyaneus or the bacillus coli.

Serotherapy as an agent for the relief of surgical sepsis has been disappointing. The antistreptococcus serum of Marmoreck has not justified the earlier claims of its discoverer. However, we have seen enough to encourage us in the perfection of the serum. It can hardly be expected to cure mixed or unusual varieties of streptococcus infections. As a preliminary to further study of antistreptococcus serums, a thorough re-investigation of the streptococcus order is essential There are always many facts observed that indicate that there are many subvarieties of streptococcus presenting independent clinical characteristics. Varieties must be isolated and so combined in culture that the resulting serum is antidotal to the kind found at the seat of the infection. The utility of the serum treatment of diphtheria is so established that there can be no doubt but that others will be discovered equally effective. The tetanus serum certainly possesses antidotal properties. When given in suitable quantities, I have invariably seen improvement follow its use and in one case I believe it was a life-saving agent. In this latter case nearly five hundred cubic centimeters of serum were given in two doses. In my experience the prescribed dose is far below the quantity required. Enough results have been obtained, however, to justify further and most painstaking investigation. Serotherapy must, however, be employed in conjunction with laboratory methods if it is to occupy an important position in the treatment of surgical infections.

The discovery of actinomycosis and its cause, the ray fungus, has attracted the investigation of other orders of vegetable life closely allied to bacteria. Some of the yeasts and moulds are pathogenic to man. The investigation of the oriental boil, madura foot and allied conditions has been fruitful and allows us to hope that the next decade will demonstrate beyond dispute etiology of other obscure problems of surgery.

The apparent increase of cancer has attracted universal attention and many indefatigable workers are now re-investigating the disease. Already much that is promising has been determined. At this meeting a report will be presented embodying all the latest discoveries in this very important department of endeavor. The task may appear beyond our powers. It will involve a radical departure from the old and require new methods of investigation.

The laboratory has other tasks to perform besides those already considered. The study of the secretory and excretory functions of the body has an importance hardly to be overestimated. Unfortunately suppression of urine and intestinal paralysis play an important rôle in surgical mortality.

The examination of urine requires further investigation than is found in color, reaction, specific gravity, sediment, albumin and sugar tests. The total elimination of solids by the kidneys during twenty-four hours is an important problem where anesthesia is involved. The presence of pepton, indol, indican and other albuminoid principles are an evidence of disordered metabolism due to disturbances of the normal functions of the liver and intestines. The wisdom of undertaking any serious surgical operation without the fullest inquiry into the condition of the intestinal tube and kidneys is doubtful. Frequently this involves delay, but I have never regretted a few days' waiting. On the contrary, some of my

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greatest misfortunes have come through undue haste at the solicitation of the patient and attending physician.

The routine examination of the blood is not less essential than either chemical or bacteriological investigations. For example, the approximate estimate by von Fleischl's method of the hemoglobin yields very important information after severe concealed hemorrhage, such as occurs in ectopic gestation, rupture of aortic aneurism, or internal hemorrhage due to the rupture of a kidney, the liver or spleen. Kiekvlicz has established a rule never to operate when the hemoglobin is under thirty per cent. It occurs to me that such a rule is open to many objections, yet the estimate is none the less valuable as an indication for conserving all the blood possible during the operation.

Bierfreund has carefully examined and tabulated the results of his investigations of the hemoglobin in a number of cases of malignant disease. It has been found in all of them that the hemoglobin is far below normal, that operations are associated with a very considerable loss and that the hemoglobin in the blood never again rises to a normal point, even months after the operation is completed and the patient's condition materially improved. This is a very important discovery and should lend material assistance in deciding for or against the propriety of operating in advanced malignant diseases.

The question of rigors arising before or after operation is an important one. In the years gone by, very frequently a chill after an operation was attributed to a prior malarial affection or to pure nervousness. It is always a matter of first importance to decide this matter at once by exclusion. The so-called nervous chill, concerning which a great amount of skepticism may exist, is not associated with the presence of the plasmodium malariæ or pronounced leucocytosis. The septic chill on the other hand is not associated with the plasmodium malariæ in the blood. This fact was of considerable comfort to me in my late service in the army. It was my fortune to have a considerable number of the wounded after the battle of Santiago placed in my care. A number of these soldiers also suffered from malaria, and it frequently required the microscopic examination of the blood to determine whether the rigors were due to septic infection or malarial poisoning. This was particularly more interesting to me because the malaria from which the men suffered presented no very uniform or regular type.

The surgeon is frequently called upon to determine the propriety of operating upon tumors in the neighborhood of the spleen, the differential diagnosis of which is frequentlv attended with many difficulties. The importance of excluding myelogenous leukemia is very great. To make an exploratory incision, to find a leukemic spleen is quite inexcusable in modern surgery because the operator has not availed himself of all the methods of diagnosis. This is equally true in cases of lymphatic leukemia. It is a great misfortune for a patient to have one or two groups of leukemic glands extirpated. The blood condition will never recover from the necessary hemorrhage produced by the operation and the patient's life will be correspondingly shortened by surgical intervention. On the other hand, a differential blood count will furnish indication for the removal of glandular sarcoma and of the lymphosarcomatous nodes of Hodgkins disease. There is no method by which the surgeon can determine the precise nature of the difficulty which confronts him without recourse to blood analysis.

A careful estimate of the degree of leucocytosis frequently gives an important indication for an attack of obscure intra-abdominal conditions. It is of material advantage in deciding whether in a given case you have hydronephrosis, floating kidney, impacted cecum, a distended gall-bladder, typhoid fever or appendicitis. An increasing leucocytosis when the leucocytes present edult types, or the so-called polynuclears, is always an indication for operation in appendicitis. In obscure intra-abdominal conditions, with evidences of intestinal obstruction, which may be either malignant, simple, obstructive or inflammatory, a careful blood count is frequently of advantage. If under such circumstances the blood is found normal, non-inflammatory obstruction is reasonably assured. If, on the other hand, a considerable leucocytosis exists, say of 18,000 or more, together with an increase of fibrin in the blood, an inflammatory cause may be suspected. Still again, if together with the leucocytosis, some distortion in the form of the red blood-corpuscles exists, together with reduced hemoglobin and a small amount of pus and mucus in the feces, the diagnosis of malignancy is extremely probable. On occasion the differentiation of neuralgias, gall-stone and renal colic is extremely important. When unattended by inflammatory conditions, it will be found that under such conditions the blood is normal, or at least is not associated with sufficient change to indicate a specific pathological condition.

Time does not afford the opportunity of indicating, except in this very general way, the usefulness and extent to which this method of clinical investigation may be carried. It certainly opened up a new, large, very promising and very useful field of investigation, one, by means of which, we can still further hope to improve the methods of modern surgery. All of these methods of investigation which I have presented to you require a vast amount of time for their performance. They form one of the best reasons why modern surgery is best done in hospitals which now afford every facility for clinical investigation. The amount of technical requirements demanded of the modern surgeon are far different from those required of his immediate predecessor. Modern surgery is not an art to be assumed at once. It is a science which requires infinite painstaking, conscientious labor, and an amount of technical training not to be attained in

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any post-graduate course of six months' duration in any school with which I am familiar.

There is an oft repeated formula that all surgeons should at least have five years' experience in the general practise of medicine before entering upon the practise of surgery. Nearly all the older surgeons have to an extent continued such a general practise throughout their careers. The demands of modern surgery will not permit of such a course. The recent medical graduate who determines upon a surgical career will perfect himself far better by a two years' service as a hospital intern in a well regulated hospital, taking all the services in course. This will afford him the opportunity of perfecting himself in clinical diagnosis including the usual pathological, urinary, blood and microscopic examinations. It will require his entire time to develop any important degree of proficiency in these departments. The two subsequent years may be profitably spent in laboratories for physiological chemistry, general and comparative pathology, bacteriology, anatomy and experimental surgery. These courses will of necessity be taken at large hospitals or universities where abundant material is offered for investigation. During this time his bedside experience will be necessarily limited but the advantages of an out-door service may be secured. He is now in position to assume an assistantship in the operating room of the surgical clinic and to begin the actual life work, and at the conclusion of another year is ready to assume the responsibilities of operative surgery for himself.

Such a course of post-graduate study faithfully pursued will give advantages that are inestimable. The highest order of work demands all these attainments. The modern surgeon must be equally at home at the bedside, in the clinic and in the laboratory. He must be able to direct if not conduct each department. They are dependent each part upon the other and require equal cultivation in order that the symmetry of the whole may be maintained.

PROPHYLAXIS IN GYNECOLOGY.[1]

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AT this time, when the importance of preventive medicine is so keenly appreciated, less attention has been paid to this subject in connection with gynecology than might be expected, in view of the enormous strides which have been made in this department during the past ten years.

The question often suggests itself to the unprejudiced observer, whether the surgical activity displayed by modern gynecologists is deserving of unqualified approbation. The writer has frequently, in conversation with some of the older members of the profession, been asked why it is that the majority of gynecological cases are now regarded as purely surgical; and, considering the great ingenuity displayed in the invention of new operations, why more time has not been devoted to an investigation of the best methods of preventing many of the pathological conditions within the pelvis. This question has suggested itself to the laity also. Every obstetrician is constantly asked by the sturdy mothers of a former generation why it is that the young women of the present day not only find parturition such a terrible ordeal, but after recovery from what may be regarded as perfectly normal labors, become subjects for the gynecologist, and are obliged to submit to reparative operations before they regain in a measure their former health. This admitted fact is really a confession of our own limitations. An old and estimable teacher and leader in our art stated several years ago that at least fifty per cent. of his patients were furnished to him by the obstetrician. He might have added at that time that twenty-five per cent. more represented the result of neglect on the part of parents and family physicians. The subject of the etiology of pelvic diseases is an old one. It is thoroughly discussed in the introductory chapters of every text-book. It is the first point which is impressed upon us as students. We are all familiar with the details, and yet the fact that there seems to be an increase rather than a diminution in the number of gynecological cases would seem to show that a proper application has not been made of observations which date back to the father of medicine himself. This is a subject which possesses even more interest for the general practitioner than for the specialist, since the former is in a position to prevent many of the ills which the latter is called upon to treat. I am glad that it has been brought before this society, because I feel that you have been satiated with surgical statistics and descriptions of operations. Brilliant as the results have been, I think you will agree with me that before many years have elapsed there will be a reaction against the prevailing notion that gynecology is synonymous with surgery.

The growth of preventive medicine has gone hand in hand with that of pathology and bacteriology, and it is only by clearly understanding the occult causes of disease that we have learned, as yet imperfectly, to prevent its development. The imagination can dimly picture the advances which may be made in the new century. Gynecology has not been behind other branches of medicine in regard to the intelligent application of pathological facts to surgical technic, but in the matter of prevention we are still open to criticism. Thanks to the improved system of medical instruction, the general profession is able to grasp clearly the truth that facts and not theories must underlie every permanent system of teaching. The time has passed when any teacher can expect his students to accept without criticism a theory which he has carefully elaborated in his library. They now believe only what they can see.

[1] Read at the ninety-fourth annual meeting of the New York State Medical Society, held at Albany, January 30, 31, and February 1, 1900.

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It is the purpose of the present discussion to present in a practical way the main facts of prophylaxis as applied to diseases of women. The part assigned to me is to introduce the subject by indicating in a general way the topics to be treated by the speakers who will follow.

It is a trite saying that the general practitioner makes the best specialist. Certainly a man who has spent several years in general practise is best qualified to take a fair and broad-minded view of a special subject. It is the well-known tendency of specialists to attach undue importance to single symptoms and, in their anxiety to discover some lesion of the organs in which they are especially interested, to lose sight of the intimate relation between those and the entire body. This is the reproach which rests especially upon gynecologists. For example, it would seem almost self-evident that retroversion of the uterus in a patient with general muscular atony, flabby abdominal walls, relaxed pelvic floor, and displaced abdominal viscera, is but a single indication of a general faulty condition. Yet it is only within the past few years that the condition known as enteroptosis has been generally recognized, and even now many gynecologists disregard Kellogg's dictum that the cure of retrodisplacement is only the first step in a course of treatment intended to restore the general muscular tone. Again, the phenomena exhibited by many patients, especially pains over certain well-known regions, are often erroneously attributed to reflex disturbances arising from a prolapsed ovary, or a minor lesion such as a lacerated cervix, when they are really an expression of a general, rather than a local trouble. The subject of reflex neuroses has been an inexhaustible mine to gynecologists in the past, but, to continue the metaphor, it has been pretty thoroughly worked out. There are evident signs of a revolution on the part of the general practitioner against this tendency of specialists to extend the boundaries of their activity.

A proper comprehension of the causes of pelvic disease embraces an accurate knowledge of the normal anatomy and physiology of the pelvic organs and a study of their development from infancy to puberty, of the various sources of infection from without, and of morbid processes within. The attempt to divorce obstetrics from gynecology has often been made, but it is now clearly recognized that gynecic and obstetric surgery should go hand in hand. The best gynecologist, other things being equal, will be the best obstetrician, and *vice versa*. Consequently, a thorough acquaintance with obstetrical complications and accidents is indispensable for him who aims not only to carry his patient safely through the immediate dangers of parturition, but to discharge her at the end of the puerperal month as well as she was before. The study of that much-neglected subject, the climacteric, which receives so little attention in modern textbooks and lectures, is indispensable. When we add to this a knowledge of the origin and development of malignant diseases, we have indicated, although only superficially, the range of subjects with which it is necessary to be familiar in order to understand the causes and prevention of pelvic disease.

It is hardly necessary to call your attention to the vulnerability of the female pelvic organs, since this is self-evident. Most of the former dangers which attended gynecological treatment, whether operative of non-operative, have been eliminated by the general observance of aseptic technic. But some still remain, and will continue to menace the health of women until some future age shall have discovered more efficient means of prevention than we now possess.

It is a hopeful sign of the progress of the times that the importance of preparing young girls for their duties and responsibilities is more clearly recognized than ever before. Thanks to the impetus which has been given to athletic sports, we may hope that the future wives and mothers will possess bodies more like those of their vigorous ancestors than the class from which we draw our patients. The perils which beset young married women from gonorrheal infection, pointed out long ago by Noeggerath, have been so strongly accentuated as the result of our thorough familiarity with diseases of the adnexa, gained at the operating-table, that we observe signs of a disposition to apply in this delicate and important question the same preventive measures which we are seeking to enforce in regard to tuberculosis.

Through the general application of the principles of aseptic midwifery the dangers of puerperal sepsis have become so minimized that it is not too much to expect that they may in time be completely eliminated, while we may confidently hope that under our modern system of medical instruction the importance of early operative interference in cases of delayed labor and the immediate repair of lesions of the soft parts will greatly reduce the number of patients who may require secondary operations. Of course, a certain class of pelvic diseases are, and doubtless long will be, unpreventable. It is only by a stretch of the imagination that we can conceive of some future discovery by which the origin and growth of benign neoplasms may be foreseen and prevented.

Malignant disease of the uterus is the *bête noir* of gynecologists, and still remains from a prophylactic standpoint as hopeless as ever. But who can prophesy what the future may have in store? With the inevitable discovery of the cause of cancer will come some way of preventing its development, or, at least, of arresting it in the incipient stage.

I have said that it is to the family physician that the question of prophylaxis is of peculiar interest. It is his privilege to watch the development of the young girl, whom he perhaps assisted into the world, whom he has guided safely through the perils of infancy and childhood to

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the period which witnesses the change to womanhood. He, more than any other, is in a position to address to her mother, as well as to herself, words of counsel, to guard her against those numerous indiscretions, harmless in themselves, which are common in careless girlhood. The influence of careful diet, regulation of the bowels, the avoidance of errors in dress, violent exercise, exposure during menstruation—all these factors of disease are more or less within his control. He should see to it that mothers are not only thoroughly instructed themselves, but that they teach their daughters the importance of the sexual organs, the significance of the phenomenon of menstruation, and the future duties which lie before them. The question of marriage is one which is usually regarded purely from a sentimental standpoint. It remains for the medical counselor to teach his patients that it has a physical side as well. While no subject requires more delicate tact, certainly a proper regard for the future welfare of the young woman over whom he has watched so many years must lead him at times to proffer his advice, even when it is unasked. It is difficult to see how a conscientious physician could without a protest allow a young girl with serious uterine or ovarian trouble, with a fibroid tumor, with tuberculosis, or with marked cardiac disease, to enter into the matrimonial state, knowing the perils to which she will be exposed should she become a mother. Certainly here are opportunities in the direction of prophylaxis, the neglect of which is inexcusable.

The question of the prophylaxis of syphilis and gonorrhea in the female is one which, in this country at least, we do not seem at present to be in a position to handle by preventive legislation without encountering vigorous opposition. There is room for considerable difference of opinion as to how far the family physician is justified in endeavoring to prevent the marriage of a young girl unless he is possessed of the most positive evidence that she would be exposed to the danger of syphilitic or gonorrheal infection. Every gynecologist has seen too many sad instances in which men were permitted to marry, being assured by their physicians that they had entirely recovered from disease, when the terrible error was proved in the persons of their innocent companions. This whole subject is one which deserves our most earnest attention. We shall never succeed in eliminating the most serious and far-reaching cause of pelvic disease until we have applied to it the same principles of prevention that we have to other communicable affections.

Allusion has been made to the importance of the menopause in its relation to the etiology of pelvic disease and the slight attention which has been paid to it in lectures and text-books. A proper understanding of this peculiar condition, which borders so closely on the pathological, implies a review of the whole range of medicine as well as a study of mental diseases. Even in our present enlightened age the climacteric is regarded too often as a necessary evil which can neither be averted nor mitigated, and that every woman in passing through it has, so to speak, to take her chances. So familiar a subject as the liability of tissues to undergo malignant degeneration after the period of sexual activity is still woefully neglected, as proved by the records of our hospitals which show that in the majority of cases of incurable carcinoma the initial symptoms were entirely overlooked by the attending physician under the impression that they were physiologic, rather than pathologic.

It would seem to be contrary to the spirit of this discussion to include surgical operations under the head of preventive medicine, yet often the wisest conservatism lies in the repair of injuries, not only because of the present symptoms to which they give rise, but with the view of averting future trouble. As a familiar example we may instance the amputation of a lacerated cervix which might become the seat of carcinoma after the menopause; or the removal of a fibroid tumor, which, although not affecting the patient's health, by reason of its increased growth at the time of the climacteric arouses the suspicion of possible sarcomatous degeneration.

One looks back with mixed feelings of wonder and horror upon the local treatment which was common twenty years ago. Considering the absence of cleanliness, not to speak of asepsis, the almost universal practise of inserting instruments into the uterus and in the office performing curettement, the removal of polypi, and even cutting operations (not to mention the barbarous practise, borrowed from our German *confrères,* of introducing strong caustics into the uterine cavity), the only wonder is that any woman escaped an attack of peritonitis. I venture to say that there are many excellent practitioners at the present day who regard the application of aseptic principles to ordinary office manipulations as quite unnecessary. So serious were the results attending the use of tents in pre-aseptic days that they have been largely abandoned. This is to be deplored, since, when properly employed, they are an invaluable aid to the diagnosis and treatment of certain intra-uterine conditions. Doubtless the true reason why certain minor ailments, such as catarrhal conditions of the endometrium, are now rarely aggravated by treatment, as was formerly the case, is that intra-uterine medication has been largely abandoned in favor of curettement under anesthesia. The fact that the attempt to replace adherent organs by forcible manipulation has been relegated to the heroic age of treatment is undoubtedly a distinct step in the direction not only of conservatism, but of prophylaxis. It has been so forcibly impressed upon the present generation of medical students that the endometrium is a highly vulnerable surface, that there is little danger that the old crude methods will ever be revived.

The early recognition and treatment of specific

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infection, whether gonorrheal or septic, before it has extended beyond the uterus, is another advance in prophylaxis. Many women who in former days would have been treated by the old routine method of hot douches and the free use of opium, and if they recovered would have been permanently crippled through the extension of the infection to the tubes and peritoneum, are saved from this fate by early curettement. The whole trend of modern pelvic surgery is conservative, and what is conservatism but prophylaxis, the prevention of the manifold physical and mental disturbances with which we used to be so familiar when ovaries were indiscriminately removed on the slightest provocation? The recognition of the fact that the persistence of the ovarian function is necessary not only to favor conception, but by reason of its influence upon the entire organism, has gone far to remove the reproach which rested upon gynecologists. It may be said in general that we understand now more clearly than ever before the importance of the warning *nil nocere*.

In outlining thus briefly and superficially a field which will be covered by the readers who will elaborate each branch of this subject, I have been necessarily limited by the desire not to anticipate the views which they will develop in detail. As I stated at the outset, this subject must appeal to every practitioner of medicine. Whether he approves or disapproves of the surgical activity of the specialist, he will find ample opportunity to apply the principles of prophylaxis in his daily work.

We hear a great deal about the future woman. Her mental development does not concern us as physicians, but with regard to her physical improvement, her more perfect capability to discharge her duties as a wife and mother, it cannot be denied that an important duty devolves upon us. Under the complex conditions which affect her we cannot expect that she will develop the same robust physique and power of resistance enjoyed by her sturdy ancestors unless she is taught to recognize and to avoid those influences which threaten to undermine her health. The strain of mind and body necessary to meet the demands of modern society are so great that only the most careful training during girlhood and the most intelligent care after marriage can offset them. This is the province of the family physician, and he can have no nobler work. It will be fortunate if, as many believe, through a process of evolution, the family physician is destined to become extinct. The specialist can never take his place.

First Aid to the Injured.—The New York Society for Instruction in First Aid reports that since its establishment in 1882, 11,929 persons have received instruction, of whom 7188 passed the examination and received diplomas. Among these 800 firemen have received instruction, and all policemen in the probationary school take the course.

THE ETIOLOGY AND PREVENTION OF UTERINE DISEASE BEFORE AND DURING PUBERTY.[1]

BY W. GILL WYLIE, M.D.,
OF NEW YORK.

THE etiology and prevention of uterine diseases is a subject which has interested me for many years. It has, in my opinion, been much neglected by gynecologists, although recently I have noticed that it is commencing to assume more prominence in connection with the broader subject of the prevention of diseases in general. I have always been interested in this phase of gynecological work. During the earlier years of my medical education I became interested in the study of diseases of women, and subsequently, during my service as an interne at Bellevue and the Woman's Hospital, where I studied gynecology under Emmet, Thomas and Peaslee, my inclination towards this speciality was naturally strengthened. As far back as 1882 I published a paper in the *American Journal of Obstetrics*, January, 1882, entitled "Observations on Lacerations of the Cervix Uteri," in which I referred at length to the etiology of this condition. In a paper on "Anteflexion of the Uterus; Its Etiology and Associated Pathological Conditions," published in the *American Journal of Obstetrics*, September, 1883, I again brought out more fully the fact that imperfect development was the real cause of the pathological conditions usually termed anteflexion of the uterus.

In order to thoroughly understand a disease, we must study etiology. When once you get the scientific facts regarding the etiology of a disease its prevention will be plainly indicated. In the paper first mentioned I called attention for the first time, as far as I know in a direct and practical way, to the fact that imperfect development of the generative organs is a most important factor in the causation of uterine disease. Almost ten years later, in the *Transactions of the American Gynecological Society*, for 1898, I published another paper entitled "The Influence of Imperfect Development of the Generative Organs as a Cause of Disease," in which I enlarged on this subject, and since then my views regarding it have undergone very little change.

Suppose we could take a number of men and women and treat them on the same principle as a horse-breeder treats his animals on a stock-farm. By selecting males and females who are physically well developed we could, in the course of time, produce a body of human beings who would be far superior, physically, to an equal number of human beings born promiscuously. Such a thing, however, is of course out of the question, but I believe that as scientific knowledge advances the physical condition of a man or woman will play a much more important rôle in the selection of a proper husband or wife. Good health and a good temperament in

[1] Read in the discussion on Prophylaxis in Gynecology at the ninety-fourth annual meeting of the New York State Medical Society, held at Albany, January 30, 31, and February 1, 1900.

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a woman are more important than mere refinement or education. Even under existing social conditions, the family physician can do much to influence and benefit the unborn child. He can, as I have done, take charge of a delicate woman as soon as she becomes pregnant, and so regulate her diet and exercise and mode of life that her physical condition will be much improved, and this will have a decided influence on the child, even before its birth.

Up to the age of nine or ten years, girls and boys should be treated on the same general principles: they should be allowed the same freedom with proper restrictions as to their food, exercise, etc., and as nearly as practicable kept in good general health. They should not be permitted to overexert themselves mentally, or be subjected to excessive mental excitment by contact with older children. Chorea is a very common manifestation among girls of this age; these patients are usually pale and anemic, and when such a child is brought to me for treatment the first thing I do is to examine the clitoris. It is amazing how many of these patients can be entirely cured of their symptoms by practically circumcising the hood of the clitoris. A boy is rendered nervous and irritable by the presence of a long, tight prepuce and an analogous condition may exist in a girl, although it is perhaps not quite as common or severe, because the penis is a larger organ than the clitoris: still they are homologous, and are influenced in exactly the same way. The secretions underneath the hood of the clitoris may give rise to irritation which will cause the child to rub itself until erotic sensations are produced. I have in mind a child two years old, who in this way became habituated to what might be called a form of masturbation; the child was nervous and fidgety, and her mother informed me that she would not go to sleep at night until she had gone through this process of rubbing herself. I examined her and found a clitoris large enough for a girl of fifteen The hood was adherent and granular and very hyperesthetic. It was removed. I have noticed that girls who are subject to catarrhal troubles in general are the ones most likely to have trouble with the clitoris. The secretions from this organ may drop into the ostium vagina, and if they are septic they may give rise to a very persistent vaginitis much like a gonorrheal infection. By operating on the clitoris you will cure the vaginitis. I remember a girl nine years old who had been treated by a prominent gynecologist for two years for a supposed vaginitis which always returned when the irrigations were stopped. Upon examining the child I found that a dirty, creamy, septic material, which came from underneath the hood of the clitoris, was the cause of the trouble. When the clitoris was freed the vaginal irritation and discharge ceased.

The treatment of these cases is extremely simple. It consists of freeing the clitoris and keeping it free. I do not mean that you are simply to push back the hood of the organ and tell the mother to take care of it; she will not do it. These patients can be permanently relieved by a very simple operation, which was devised by my brother, Dr. Robert H. Wylie. The operation is preferably done under ether, because after injections of cocaine the connective tissue becomes puffed and swollen and interferes with the completion of a neat plastic operation. Briefly, the operation is as follows: The clitoris is covered by a hood, which runs up from the labia minor. This hood is loosened and then divided with a pair of scissors up to the corona of the gland. The incision is made longitudinally, but on account of the tension of the tissues it immediately becomes a transverse cut. Two or more sutures are then put in, one or more on either side of the gland, and the edges of the wound sewed together. This pulls the hood to one side, and the head is exposed all the time. The operation is extremely simple to perform, and the wound can easily be taken care of by anyone.

I now wish to say a few words about girls a little further advanced in years. Between the ages of ten and eighteen years the change from girlhood to womanhood takes place. Anything which affects the general health of a girl between those years unquestionably produces a deleterious effect upon the generative organs if it continues for any length of time. I am perfectly satisfied that for a young girl to develop into a young woman she must have not only a sufficient amount of vitality to use for muscle and brain, and for the performance of the ordinary functions of the body, but she must also have a surplus, a reserve force, so to speak, otherwise the generative organs will surely suffer. The generative organs of a girl nine or ten years old are very much as they were when she was two years old; the circulation in these organs is inactive and their development is slow up to about the age of ten, but from that time on they rapidly develop and this requires a certain amount of vitality over and above what is needed or used up by the other organs. They are the last organs to develop, and, as we know, they are not essential to the life of the individual; a woman can get along very well without them, and if she has not a sufficient amount of vitality, those organs will be the first to suffer. I am sure that diseases of the womb are more common among the better class of women, where intelligence, money and sometimes doctors interfere with the law of survival of the fittest, at least in this country, than in any other. Some European writers, basing their assertion upon the number of gynecologists we have here, have even claimed that most American women must have uterine disease, but this I do not believe. Among the better classes, however, imperfectly developed uteri are very common. The reason for this, I believe, is that in this country the girls, during their developmental stage, are not restrained in their studies, as English girls are, and are thrown more into

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company with grown people, their general education and knowledge of the world is greater than young women in other countries. They are sent to school when eight or nine years old, and between that age and seventeen or eighteen are supposed to acquire all the technical knowledge they are to have during life. Our young girls are pushed too hard at school; they do not have sufficient freedom out-of-doors. Their mental condition is developed at the expense of the physical, and during those very years the generative organs suffer most. If we permitted our young girls to lead quiet, healthful lives and would not try to educate them too early to act like grown people they would develop better physically as young women in England and other countries do. After puberty their minds could be better developed than by hard and exciting work during the important period of physical development.

Generative organs which have remained undeveloped or have only partially developed readily become the seat of disease. Catarrhal troubles are apt to attack the organs, because the circulation is imperfect. These patients often suffer from a slight leucorrheal discharge, even before menstruation begins. Then, with the advent of that function, there will be pain, perhaps from the very first menstruation, or coming on soon afterward. This reacts on the general nervous system, digestion and assimilation become impaired, the general health becomes worse and this reacts again on the local condition. These young girls suffer from anemia, from uterine polypi and hyperesthesia of the mucous membrane of the uterus. Suppose such a girl marries: if the uterus has developed sufficiently, she may become pregnant, but if the changes have progressed sufficiently she will probably remain sterile. Suppose pregnancy has taken place, however, and the case progresses to term. You cannot expect such an imperfectly developed organ to dilate as fully and allow the head to pass as readily as would be the case in an organ normally developed. A tear will almost certainly occur followed by its usual train of evils, such as subinvolution, displacements, inability to take exercise, chronic constipation, etc., all arising from the imperfect development of the uterine organs.

Functional Disease of the Ovaries.—In many of these cases not only the uterus, but also the ovaries are imperfectly developed, and the function of ovulation is imperfectly performed. This results in many cases in the production of the so-called "microcystic ovaries," and on this account thousands of women have had their ovaries removed when there was no necessity for it. Such a woman, perhaps, complains of dysmenorrhea; she has dragging-down pains in the pelvis and symptoms of uterine disease; upon examination the surgeon finds that her ovaries, one or both of them, are as large as lemons and may be prolapsed; he tells her that she has disease of the ovaries and removes them. That woman stops menstruating and her whole life is to a certain extent ruined. Such operations are being done every day. Every month I see three or four such cases. Sometimes these operations are done by an eminent surgeon, but more frequently by young men. I recently saw a case where a young surgeon removed both ovaries, which were in this so-called microcystic condition, and the Fallopian tubes were not even enlarged. Any disease which attacks these tubes enlarges them. Any man who removes these tubes where the fibriated extremity is not completely occluded is making a great mistake. I do not know of any disease of the tubes which would justify their removal unless the fibriated extremity is occluded by adhesion, unless it be a new growth. In the case I have just referred to, the patient, a young married woman, was brought to me some months after the operation. She was then having all the symptoms of an abnomal menopause, hot flashes, etc., and the contraction of the atrophied uterus was causing nervous symptoms which were ten times more severe than if the ovaries had never been taken out. That is simply one case of the many where microcystic ovaries have been removed without cause. These operations are now being done very frequently by general surgeons in general hospitals, and I claim that in every instance such castrations are done on insufficient grounds. Women lose their ovaries and men make grave mistakes without really knowing it. To remove a young woman's ovaries simply because they are large would be just as senseless as it would be to remove the stomach because it is distended by gas. There is simply a functional disturbance, and there is no necessity for removing them. Give her proper general and local treatment and these cysts will cease forming, ovulation will become normal and impregnation possible. As for curing dysmenorrhea or excessive uterine hemorrhage by taking out the tubes and ovaries, a method of treatment which is even nowadays taught, that is entirely uncalled for. Dysmenorrhea or any uterine hemorrhage, except from cancer, can be cured usually by simple treatment and without the removal of any organ whatever.

The local examination of young unmarried girls should be avoided, if possible. When such an examination becomes necessary I have made it a rule for many years to make it under ether, and I prepare myself beforehand to perform at the same time any *simple operation* which may be indicated, such as curetting, or the removal of uterine polypi, or freeing the head of the clitoris, as already described. In cases of violent dysmenorrhea, where the patient has become accustomed to take morphine or gin to relieve her pain, I resort to free divulsion of the os and put in a drainage tube for ten days or a longer time. I have examined hundreds of young women under ether so that they remained practically unconscious of the fact. The hymen can be gradually dilated instead of cutting or injuring it, and a few months later no one could tell that it

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was ever touched. One intelligent treatment under ether is worth many weeks and months of the usual haphazard methods of treating these patients.

The Habit of Constipation.—Next to overseeing the general health, and the application of the necessary local treatment, perhaps the most important factor is the regulation of the bowels. Women, as a rule, are very negligent in this respect, and young women especially os. Their constipation is due to their sedentary habits, to the fact that they do not drink enough water and perhaps to shyness about visiting the closet when there are men in the household. The movements of the bowels occur at irregular hours, and gradually these girls become habitually constipated. In my opinion, the impaction of feces and accompanying straining at stool is a more important factor in the production of uterine displacements than falls or any form of physical exercise that a woman can take. More good can be done by correcting the habit of constipation or rather preventing its formation than by anything we can do for her during menstruation. Very little is said on this subject in the text-books in spite of the fact that it is such a common and so important a factor in the causation of uterine trouble. If we can educate a woman to properly regulate her bowels we have accomplished a great deal. I regard it as one of the most difficult things which gynecologists have to do.

Dress of Young Girls and Women.—The modern costumes of women, especially among the well-to-do classes, is and has been bad for many generations. It obstructs freedom of action and lessens the good effects of wholesome exercise. Lacing is especially bad. I am sure its bad influence on the lower ribs and certain organs is more or less transmitted from mother to daughter, that is, abnormally small waists, with defective lower ribs and muscles of the chest are more common among those whose parents for generations have worn corsets and the accompanying restraining costumes; and it is largely in this class that we find loose kidneys, prolapsed and dragging stomachs, omentums and intestines and small anteflexed uteri or retroverted imperfectly developed generative organs. Many of this class do not need to lace to have a small waist, for they either inherit it or they have failed to develop to normal proportions these important tissues and organs, by freedom of action and normal, invigorating exercise out of doors, etc., If a girl's general health is kept good and she is allowed or taught to take a normal amount of free exercise and does not wear corsets or restrain by pressure the lower ribs and abdominal muscles, until she is fully developed, say at eighteen or twenty, corsets do little harm without giving great discomfort. Whereas, if worn before development is completed, while the tissues are soft and yielding, the bad effects are induced so gradually that even truthful girls will declare they never lace; for in a large measure they unconsciously restrain and prevent normal development. Therefore, without doubt, many cases of uterine disease would be prevented if women wore costumes that gave the same freedom from restraint to normal action of the whole body as that of the dress of the average man of to-day.

Should a young woman rest during menstruation? I would say yes if rest is indicated by symptoms, such as pain, excessive flowing, dragging sensations when up and about her usual vovations, but normally developed girls in good general health do not have these symptoms and in my opinion are not benefited by rest in bed or their rooms, nor even by confinment to the house during menstruation. Until girls are fairly well developed and the function of menstruation is pretty fully proven to be normal, a certain amount of care should be enforced as to severe or trying exercise or work of any kind. Of course, more care should be given to delicate, imperfectly developed young women, but in my opinion it is wrong to regard normal menstruation in a healthy woman as a sickness and that little good, and sometimes harm, comes from keeping girls indoors under unnecessary restraint. I protest against the use of hot gin and other stimulants for pain during menstruation, and especially against the use of opium, particularly the ready use of the hypodermic injections of morphine at such times. Too much reliance on tonics and drugs merely upsets the digestion and further delays full, normal development and may make local treatment a necessity. In girls under sixteen or seventeen years of age, with rare exceptions, the disorders of menstruation can be cured by freedom from enforced study or indoor life, and mental and emotional excitement, with plenty of good, wholesome food, out-of-door exercise and diversion by contact with children as young or younger that themselves. Laxatives and sometimes partly digested or easily assimilated food, and occasionally iron or some simple tonic, such as olive oil, cod-liver oil may be useful. But to give medicine and keep these patients under the same mental and physical environment certainly does not prevent disease of the generative organs, but rather tends to insure their falling later into the hands of specialists; the frequency of which event in a measure accounts for the craze of all young doctors to take up the specialty of operative gynecology.

PROPHYLAXIS IN GYNECOLOGY: OBSTETRICS.[1]

BY JAMES CLIFTON EDGAR, M.D.,

OF NEW YORK;

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WE venture to affirm that a large proportion of cases that apply to the gynecologist for relief of crippled pelvic organs owe their invalid condi-

[1] Read in the discussion on Prophylaxis in Gynecology at the ninety-fourth annual meeting of the New York State Medical Society, held at Albany, January 30, 31 and February 1, 1900.

tion to mismanagement or avoidable accidents of the pregnant, parturient, and lying-in states.

We venture further to affirm that this large class of invalids, who owe their condition to careless and unclean obstetrics, can be greatly reduced, if not practically done away with, and that the remedy is to be found not in the preaching, but in the practise of clean and conservative obstetrics. That a careful attention to prophylaxis on the part of the obstetrician is of value not only in anticipating and warding off many of the dangers of pregnancy, labor and the puerperium, but also in preventing many subsequent disabilities of a gynecological nature, admits of no question. Nowhere more than here does the old maxim, that prevention is better than cure, find truer application. The ground to be covered in any proper consideration of the subject is so large, and the time at our disposal so small, that we must content ourselves with briefly reviewing some of the salient points, especially those which have impressed themselves upon us as being of practical value.

The subject may be conveniently considered under three heads: (1) As it relates to pregnancy; (2) as it relates to labor; (3) as it relates to the puerperium.

(1) *Pregnancy.*—There is relatively little we can do during pregnancy which will have a direct influence in the prevention of subsequent uterine and pelvic trouble. Attention to the general health, however, *e.g.*, the prevention of constipation, the proper treatment of coexisting anemia, moderate exercise in the open air, suitable clothing, especially the avoidance of constriction about the waist, in a word, a good hygiene of pregnancy is undoubtedly of prophylactic importance in two ways:

(*a*) By providing the patient with healthy blood, one of the best of germicides, and thus, perhaps, forestalling or minimizing the effects of septic infection; (*b*) by increasing the muscular and the general nutrition, factors of undoubted importance in the prevention of subsequent subinvolution of the uterus and adnexa.

Every pregnant woman should be impressed with the importance of placing herself under the care of the physician who is to attend her as soon as she shall become aware of her condition. It would be wise to give to such a patient early in gestation some simple directions, either verbal or printed, embracing advice regarding exercise, clothing, diet, care of the bowels, skin, kidneys, breasts, teeth, and the danger signals of approaching complications. There can be little doubt that not only patients, but their advisers, are too prone to consider this as a period of invalidism, and to forget that it is a physiologic process. One of the important results of this view is the neglect of muscular exercise, especially in the higher walks of life where the desire to escape observation and the fears inspired by false views lead to the neglect of even the little exercise, *i.e.*, walking, to which the patient is accustomed, and the consequent weakening of the whole muscular system. Now just the opposite should be the case. The strain imposed upon the muscular system by the requirements of labor is a severe one, and should be forestalled by the cultivation, as far as possible, of muscular strength. Time and space do not permit us to enter into detail nor is it necessary; for, the general principle being appreciated, the individual practitioner may be trusted with its application to the particular case.

In the effort, however, to secure a proper hygiene of pregnancy, we should not forget the danger of overexertion; and this brings us to the consideration of one point which we believe to be of especial and direct prophylactic importance. We refer to the avoidance of everything which increases intrapelvic pressure and resulting pelvic congestion.

An improper or insufficient diet during pregnancy can hardly be considered as a direct factor in the production of uterine disease. Acting, however, to produce a lowered vitality, it is doubtless an indirect factor in the production of subinvolution and the evils which follow. There has as yet been little evidence advanced to show that in cases of normal pregnancy any special kind of diet is of importance, nor is it antecedently probable. A mixed diet sufficient in quantity to meet the often increased appetite of the patient is probably the best. Important modifications of diet are, of course, imperative in threatened albuminuria, vomiting of pregnancy, and other morbid conditions, but these need not be considered here. The studies of Prochownik and others with reference to the prevention of dystocia by a restricted diet, and those of Schenck with regard to the determination of sex by an analogous method are chiefly important from the standpoint of pure obstetrics.

(2) *Labor.*—While in the management of pregnancy we can, as a rule, act only indirectly as far as gynecological prophylaxis is concerned, we can in the management of labor do a great deal which is of positive and immeasurable benefit to the patient in preventing subsequent serious and perhaps life-long disability. And we may subserve brevity and clearness by dividing this part of our subject into three parts, as follows: (*a*) Limiting the duration of labor. (*b*) The prompt surgical treatment of traumatism, the result of labor. (*c*) And most important of all, the observance of strict asepsis.

(*a*) That a labor prolonged beyond the limits of safety is of itself the cause of subsequent local trouble is, of course, well known. This statement is applicable to all kinds of abnormal labor, but perhaps finds its best application in cases in which local sloughing of the maternal parts is caused by prolonged pressure of the fetal head. Vesicovaginal fistula at once suggests itself in this connection. And this brings us to the fact that maternal lesions may be the result not only of the premature or unskilful use of the forceps, but also of undue delay in their use. To lay down exact rules, as some have attempted to do,

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as to the time which should be allowed to elapse before the application of the forceps without reference to the individual case, is, of course, wrong. Many other circumstances must guide us here. But it is safe to say that when with good uterine contractions the head remains stationary, the danger of injury to the maternal soft parts becomes an important factor. A similar danger also arises from too prolonged efforts to retard the passage of the head through the vaginal outlet in order to prevent laceration of the perineum. We refer here not only to the dangers arising from prolonged pressure, but also to permanent relaxation of the muscular structures of the pelvic floor with resulting disability.

(*b*) It should be the aim of the obstetrician to leave his patient in at least as good condition as that in which he finds her, and no man should attempt the care of the lying-in patient who does not understand not only the ultimate results of the more common lesions of the genital tract which may accompany the parturient act, but also the methods of their repair. Not long ago when trachelorrhaphy was a very common operation and when the importance of cervical lacerations with reference not only to the etiology of cancer, but of various lesser troubles, the immediate suture of cervical lacerations was advocated in many quarters. With the advent of more correct views, however, the majority of obstetricians do not favor the immediate repair of cervical lacerations except when required by severe hemorrhage. The danger of sepsis is by no means inconsiderable.

The importance of the immediate repair of all lacerations which endanger the muscular structures of the *pelvic floor* is now generally recognized . An external inspection of the parts is by no means sufficient, since a severe laceration involving the levator ani may exist without any external sign. A word of caution is necessary with regard to the details of the operation. Too often the operator simply restores the parts to their former appearance without uniting the torn muscular structures. Nor should the danger of sepsis be forgotten, especially when operating high up in the vagina. There is always a slight risk of infection and many a case of puerperal sepsis has had its origin in a perineorrhaphy done without careful antiseptic precautions.

(*c*) Most important of all in connection with prophylaxis during labor is rigid attention to *asepsis* and antisepsis. The importance of septic infection as a factor in the production of uterine and pelvic disease is too evident to need comment. One fact, however, we desire to emphasize, *viz.*, that what is called antiseptic midwifery, while it has enormously decreased the mortality from puerperal infection, has by no means had a corresponding effect upon the morbidity. We are too prone to consider only mortality in our results and to pass over entirely the question of morbidity. Even to-day the influences upon morbidity, the ultimate consequences of a mild puerperal process, are too apt to pass unrecognized by the obstetrician, and the case passes into the hands of the gynecologist for the cure of chronic uterine and periuterine inflammation, which had its origin in an unnecessary if not careless vaginal examination. We hear much of a lowered mortality, and little or nothing of a reduced morbidity.

(3) *The Puerperium.*—Here, while we can not be so aggressive in our methods since the period of action has passed, there is yet much that may be accomplished in the way of prophylaxis. Perhaps as much in the way of combating old and foolish customs as in the introduction of new ones of our own. The all-important question at this time is: How best can we secure involution in the puerperal state?

It is during the puerperium that we should rivet our attention upon the prevention of subinvolution, and especially in cases following the premature interruption of pregnancy. Were closer attention given to this subject in practise the sequellæ of subinvolution, metritis, endometritis, retrodisplacements and prolapsus would be less frequently met with.

In addition to the familiar means for the prevention of involution, which we cannot do more than hint at here, a routine physical examination of every woman toward the close of the puerperium, and before she passes out of the observation of the obstetrician, is of the greatest value in the detection of slight departures from the normal process of involution, and in drawing our attention to them when amenable to treatment. Were some simple, orderly method of history-keeping of obstetric cases in private practise adhered to, this examination in the puerperium would readily become a routine, and give us valuable records for subsequent reference.

In the puerperium we find two principal factors predisposing to uterine displacement, increased weight of the organ together with relaxation of its supports. It is not strange, then, that the occurrence of displacements at this period should be brought about by causes which at other times would be quite insufficient. Among these we may mention the improper use of the abdominal binder. We believe that the binder, when properly applied, conduces to the patient's comfort, especially by permitting her to assume the lateral position, diminishes the danger from syncope from decreased intra-abdominal pressure, and promotes involution of the abdominal muscles. We would, however, protest against its being applied too tightly, believing that such an application, especially when combined with a prolonged dorsal decubitus, tends to cause posterior displacements of the uterus.

The practise of keeping the patient upon the back for a long period also favors posterior displacement, and we believe that after the first day the lateral position should be advised. This position also favors asepsis by promoting the discharge of lochia from the vagina. For several years past we have taught our nurses and stu-

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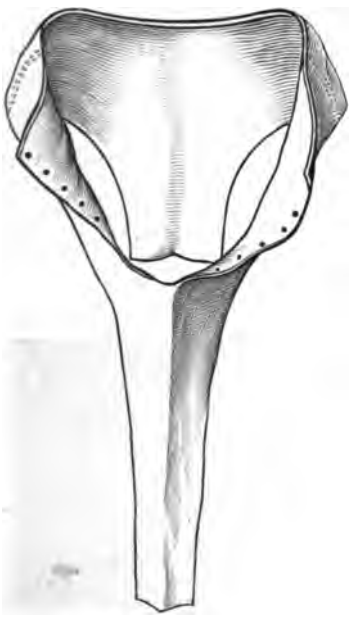
dents to insist upon a "rotation of the patient" during the whole of the puerperium, meaning by this that the patient's position in bed during a given twenty-four hours shall be equally divided between the dorsal, abdominal, and right and left lateral postures. Many patients insist that they cannot sleep when lying upon their abdomen, or remain for any time in this posture. We have

Fig. 1.



View of Binder Open.

found, however, that with a little practise the habit can be readily acquired. We have counseled the practise of the abdominal posture in early pregnancy in anticipation of the lying-in state and its requirements.

Observation reveals many women who are unable to completely empty the bladder or bowel by the use of the bed-pan, and resulting pelvic congestion and pressure are thus favored. The difficulty could have been avoided had the patient been trained in the use of the bed-pan during pregnancy. Another remedy for incomplete bladder or bowel evacuation and a method which at the same time favors uterine draining is in permitting our patients to either sit upon the vessel placed in the bed, or upon a commode at the side of the bed, early in the puerperium for bladder or bowel evacuation. This has, in the past, been recommended by some in selected cases, and by others in all. In our observation during the past ten years of many thousands of cases confined in the tenements, we have never seen dangerous symptoms result from this practise, and yet the majority of the patients within six or eight hours of their confinement either sat upon a vessel in bed or at the bedside to pass urine.

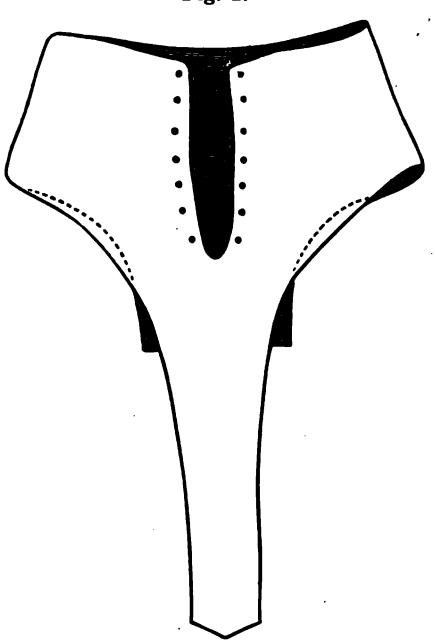
The importance both to mother and child of the proper performance of the function of *lactation* is universally admitted. We would note, however, as bearing especially upon the subject in hand the influence of nursing in favoring uterine contraction and involution, and thus aiding in the prevention of uterine disease.

Getting up too soon and especially too early resumption of household duties are without doubt important factors in the production of displacements and even prolapse, particularly when delivery has been attended by some lesion of the pelvic floor which has been neglected, or improperly or unskilfully treated. Patients should, even after leaving the bed, spend a part of each day in the recumbent posture, and the occurrence of a backache should be regarded as a warning against standing or walking, and especially against any kind of work.

The importance of a routine examination of the pelvic contents and tonicity or sagging of the pelvic floor (levator and muscle) at the completion of the puerperium cannot be overestimated. If this be made a routine, many minor derangements could be at this time corrected which if allowed to remain untreated would by time become aggravated.

Some ten years ago my attention was drawn to cases of undue pelvic floor projection (sagging of the levator ani muscle) and to patients with weak abdominal muscles, especially in women seen in private practise. At that time, at the suggestion of one of my first confinement patients, I first began the use of the pelvic binder to sustain

Fig. 2.



View of Binder Closed.

the pelvic floor and the lower portion of the anterior abdominal wall in selected cases for three months following the puerperium. The results obtained were so satisfactory that I soon used the pelvic binder in all cases. The binder is made of muslin, linen, mull, canton flannel, or

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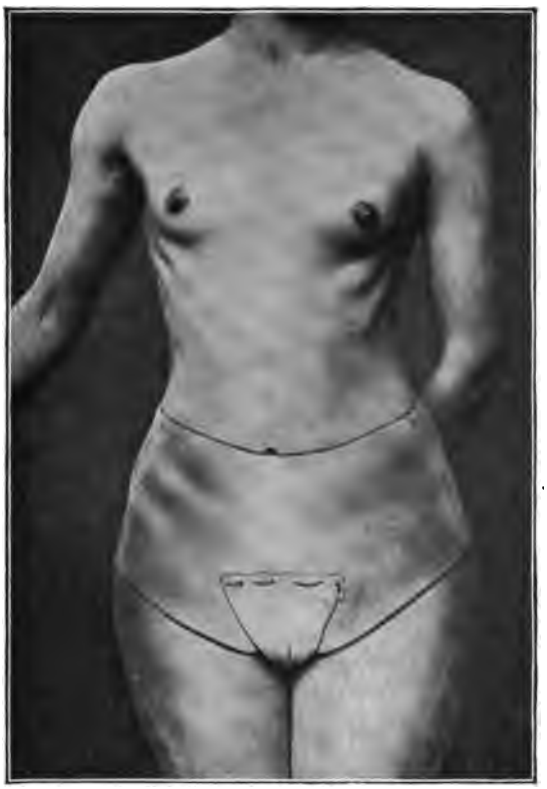
two thicknesses of heavy gauze, and as the illustrations show, is made to encircle the pelvis and lower abdomen at a level with the crests of the ilia, and to support the pelvic floor by means of a strap made of the same material, which passes between the thighs and, tightly drawn, is pinned

Fig. 3.



Binder in Position. Front View.

either in front or behind, as is most convenient.

Ordinary corset lacing down the front or back secures a snug fitting of the binder. The pelvic binder when applied, laced, and the perineal band secured, is not unlike in appearance and shape the ordinary swimming trunks worn by bathers. I am accustomed to have half a dozen or a dozen pelvic binders fitted and made in the latter part of the puerperium, and to replace with it the use of the ordinary abdominal binder as soon as the lochia has practically ceased in the third week of the puerperium, and when the patient first commences to sit up in bed or changes from the bed to lounge, and to continue its use for three months from this time.

The results obtained by the use of this pelvic binder have been more than satisfactory. Its benefits have been readily appreciated by my patients themselves, some having used it after as many as three confinements. (1) It prevents or corrects undue sagging of the pelvic floor. This is especially noticeable in cases where, during labor, the levator ani muscle has been subjected to severe or prolonged pressure, as in disproportion between the head and the outlet, in breech presentations, in forceps or craniotomy cases, or prolonged labor near the termination of the second stage from any cause, in severe lacerations with bad union, and in cases where the levator ani is torn and the perineum remains intact. (2) It assists in the ultimate union of severe lacerations of the pelvic floor which have been repaired. (3) It preserves the woman's figure after confinement by its support of the lower anterior abdominal wall and of the pelvic floor. (4) It lessens the danger of displacements of the pelvic contents. (5) It tends to prevent pelvic congestion. (6) It usually adds to the comfort of the woman, giving her a feeling of security and cinal methods of treatment of the puerperium in well-being and allowing her to obtain needed exercise earlier and more freely than otherwise would be the case.

Unless preexisting pelvic disease be present,

Fig. 4.

Binder in Position. View of Back.

with the use of this pelvic support we rarely see the danger signals of pelvic congestion, namely, backache and symptoms of irritable bladder.

What place have drugs and various non-medi- the prevention of subinvolution and subsequent

gynecological conditions? During the past ten years we have experimented with various methods of management of the puerperium, with the object in view of determining, if possible, the best treatment for the prevention of subinvolution and subsequent gynecological conditions. A record blank was adhered to in all cases, and as accurate and careful records as the circumstances permitted were kept, and in a large proportion of the cases the examination upon a given date of the puerperium, and the measuring of the depth of the uterine cavity were made by the writer.

Observations were made as follows: (1) No medication during the puerperium: Primiparæ, 22 cases; multiparæ, 21 cases; total, 43 cases. (2) Strychnine during the puerperium: Primiparæ, 48 cases; multiparæ, 55 cases; total, 103 cases. (3) Strychnine during the last two or three weeks of the pregnancy and during the puerperium: Multiparæ, 30 cases. (4) Ergot (3ii) after completion of the third stage only: Primiparæ, 18 cases; multiparæ, 13 cases; total, 31 cases. (5) Quinine (gr. ii. t.i.d.) during the puerperium: Primiparæ, 22 cases; multiparæ, 23 cases; total 45 cases. (6) Posture in bed, (*a*) mostly dorsal; (*b*) posture equally divided between dorsal, right and left lateral and abdominal. (7) Evacuation of bladder and rectum, by (*a*) catheter and bed-pan, and (*b*) early use of the vessel or commode. (8) Vaginal douches, (*a*) none at all, (*b*) one after the third stage, and (*c*) daily douches during the puerperium.

We are not prepared at this time to give the full results of our observations other than to state the favorable influences of (1) strychnine administered both in the latter part of pregnancy and during the puerperium; (2) the advantages of a "rotation of the puerperium" as regards posture during the lying-in state; and (3) the advantages of an early use of the vessel in bed or the commode at the side of the bed early in the puerperium, in hastening involution, favoring uterine drainage, and in the avoidance of pelvic congestion.

9 East 34th street.

CLINICAL MEMORANDUM.

DIAGNOSIS OF A CASE OF CEREBRAL TUMOR; OPERATION.

BY O. M. STEFFENSEN, M.D.,
OF CHICAGO, ILL.

THE patient, a man thirty-two years of age, occupation farmer, had been suffering for three years. The first intimation of any trouble appeared at the death of a relative, which event distressed him considerably. At that time he was conscious of a dizzy sensation, which persisted for one and a half hours, followed by a numbness in the right upper extremity, also complete aphasia, which lasted only a few moments. A slow oscillating movement of the right arm was noticed for eight hours, during which time a severe frontal headache was present. The patient then seemed quite well for one and a half years, when a numb sensation flashed through the right forearm, followed in three hours by a severe frontal headache which subsided ten hours afterwards. The patient again seemed normal for six months. One morning, six flashes of numbness were felt during a period of three hours, followed by frontal headache. During the afternoon the patient gave a cry, passed into a tonic, followed by a clonic, convulsion, and then remained in a stuporous condition for twelve minutes. Unconsciousness prevailed during the spasm. Headache was present for three days following this. Last January vomiting of the projectile type manifested itself and recurred about every two weeks and was accompanied by severe headache in the frontal region. The vomiting persisted five minutes, the headache one to three days.

In July an attack began, as usual, with vomiting on the first day, followed by headache. On the third day lateral nystagmus was observed for five minutes, succeeding which an outward deviation of the right eye was noted. Diplopia was present for three weeks. In the month of August fourteen vomiting spells occurred in one day, the spasms being about one hour apart. Following these the patient passed into a rigid condition lasting twenty-four hours. During this state the eyes and mouth were tightly closed, hands clenched. After this he was able to speak and act; he also declared that he could hear perfectly well during the rigid state. Subsequent attacks consisted of vomiting and headache only. Sight was gradually failing.

Upon examination of the patient partial iridoplegia was found. Fingers could be counted at nine inches in the left visual field, and only at three inches in the right field. A slight external deviation of the right eye could be detected. Choked disc was present. The patellar reflex was present in the left leg, but entirely absent in the right. Considerable movement in the right arm was present during sleep. Agraphia and aphasia were both present, but appeared to be mainly sensory in character inasmuch as the patient was able to repeat words quite well, although to name many objects when shown him was an impossible act. Writing was also possible when the form of a particular letter was described to him, otherwise not. Alexia was a prominent symptom. The appetite was fair, bowels were very sluggish. Urine normal. Mentally the patient presented a very stupid and listless state.

Based on the preceding symptoms and examination, a diagnosis of tumor in the region of the angular gyrus on the left side was made.

On the 25th of November the case was operated on by Dr. L. D. Rogers, and a tumor weighing three ounces, seven inches in circumference, was removed. The growth extended down into the cerebral tissue for a distance of three and a half inches, involving the angular, supramar-

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ginal and the base of the first temporosphenoidal gyri. The patient survived two hours after the operation, death resulting from shock and hemorrhage.

MEDICAL PROGRESS.

Insanity and Pelvic Lesions.—A. T. Hobbs (*Am. Jour. of Obstet.*, Jan., 1900) considered the relation between pelvic lesions and insanity and gives some very interesting statistics. Of 800 insane women under observation 220 were examined, and in 188 of these distinct lesions of the pelvic organs were found. There were 371 lesions diagnosticated in the 188 cases. These 220 women were selected for examination as possible cases of pelvic disease, which fact accounts for the great number of lesions found in the cases. Up to date the writer has operated upon 173 of these cases, performing a total of 311 operations, as follows: Curettage, 131; trachelorrhaphy or amputation of the cervix, 53; Alexander's operation, 37; ventrosuspension of the uterus, 13; perineorrhaphy, 27; ovariotomy, 22; abdominal hysterectomy, 14; vaginal hysterectomy, 9; myomectomy, 3, and celiotomy for tubercular peritonitis, 2. The result of this work was an improvement in general health in many cases, and a wonderful improvement in, or a complete restoration of the mental functions. Of these 173 cases operated upon, 73 recovered mentally; 41 improved mentally; in 55 the mental condition was unchanged, and 4 died. Thus 114 were benefited not only physically but mentally by the operative treatment. As to the relative influence of the various lesions in maintaining or causing mental disturbance it was found that (1) after the removal of ovarian or tubal disease in 24 cases, 15 became sane and there was an improvement in 4; (2) after correcting disease of the lining, body, or neck of the uterus in 72 cases, 33 became sane and 14 were improved; (3) correcting retrodisplaced and prolapsed uteri in 47 cases was followed by mental recovery in 17 and improvement in 12; (4) removal of tumors, malignant and benign, in 20 cases was followed by 6 recoveries and 8 improved; (5) repair of injuries to vagina in 10 cases resulted in 2 recoveries and improvement in 3 cases. Thus it is seen that fifty per cent. of the cases of inflammatory utero-ovarian disease operated upon recovered mentally; thirty-six per cent. of utero-ovarian displacements recovered, and twenty-six per cent. of utero-ovarian tumors and vaginal lesions recovered. From this the writer concludes that organic lesions are the most prominent factors among pelvic lesions in causing insanity, and that displaced organs come next and tumors last. Six cases are cited in detail as illustrative of the rapidity of mental convalescence after operations on the pelvic organs. It would seem that diseases of the reproductive organs are marked factors in the etiology of insanity.

Operation for Gastroptosis.—Several operations have been proposed for the treatment of gastroptosis. Gastro-enterostomy and various means of infolding the anterior wall of the stomach by a single row or many rows of sutures have been advocated. Rovsing has hit upon a method of suturing the stomach to the anterior wall of the abdomen at the same time that he puckers it upon itself. He does this by making a median incision, stretching the lips of the wound apart, and passing the needle first through one side of the wound, then with it catching up several points of the anterior wall of the stomach and finally bringing it out through the other side of the abdominal wound. Several sutures passed in this manner will not only shirr up the anterior wall of the stomach, but will hold the whole organ firmly up in its place, and so help it to empty itself. Two of three patients operated upon in this manner recovered their normal weight promptly. The third, whose symptoms had lasted for four years and who had wasted from 140 pounds to less than 60 pounds in weight, improved for a few days after the operation, and then died without reaction seven weeks later, an illustration of the serious character of gastroptosis if allowed to go too long, for no other pathological lesion could be found to account for the death of this patient. (*Arch. f. klin. Chir.*, Vol. 60, p. 812.)

The Female Bladder.—As given in text-books, the measurements and capacity of the female bladder have been ascertained by post-morten examination, by distention to discomfort by urine or other fluids, and by other inexact methods. G. L. Hunner and I. P. Lyon (*Bull. J. Hopkins Hosp.*, Dec., 1899) have used new methods in their investigations. All their measurements were made upon living women in the knee-chest posture, with the rectum, vagina and bladder distended with air. No discomfort was felt by the women during examination and, therefore, there was no resistance either voluntary or involuntary. The average atmospheric distention capacity of the female bladder, and the actual internal measurements from the internal urethral orifice to certain chosen points on the walls of the bladder were the chief points investigated. The woman was placed in the knee-chest position and the rectum, vagina and bladder were allowed to dilate with air. A close-fitting catheter was then introduced into the bladder and a long, soft rubber tube attached to its external end. The rubber tube was then closed by a clamp and the woman carefully rotated from the knee-chest to the dorsal position. The rubber tube was then put into a deep vessel of water and from below upward into an inverted graduated glass cylinder completely filled with water, and held in this position. The clamp on the rubber tube was then removed and all the air in the bladder expressed by the ordinary gynecological bimanual method. The air thus expressed was collected in the glass cylinder, displacing from

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above downward an equal amount of water, and by reading off the amount on the graduated cylinder the exact air capacity of the bladder was obtained. To test whether all the air was thus removed from the bladder it was flushed by means of a double-barreled catheter with boric solution, and any remaining air forced out and collected for measurement. In 25 women the average bladder capacity was found by this method to be 303 c.c., the minimum being 160 c.c. and the maximum 545 c.c. In 22 cases the fluid capacity of the bladder was measured with boric solution, the average being found to be 429.7 c.c., the minimum 210 c.c., and the maximum 840 c.c. The average fluid capacity was, therefore, more than one-third greater than the air capacity. Measurements for both fluid and air capacity were made both with and without anesthesia, and found to be greater with anesthesia than without. The bladders of nulliparæ had a greater capacity for both air and fluid than those of women who had had children. Internal measurements of the bladder distended with air were made, from the internal urethral orifice to (1) the vertex, to (2) the posterior wall, to (3) the left lateral wall, and to (4) the right lateral wall. The average measurements obtained for these four points were: To vertex, 7.14 cm.; to posterior wall, 5.77 cm.; to right lateral wall, 5.92 cm.; to left lateral wall, 6.70 cm. The symmetry of the bladder is shown by the greater average distance to the left lateral wall and is due to the fact that the rectum is found more commonly on the right than on the left in women, and when distended pushes the bladder to the left. The uterus also assists in causing this asymmetry. The average length of the urethra in 17 cases was found to be 3.3 cm., the shortest being 2.7 cm., and the longest 4.2 cm. Some drawings illustrate the methods used.

Orthoform.—A. Luxenburger (*Münch. med. Woch.*, Jan. 9, 1900) reports favorably upon orthoform and thinks the time has come to give it a definite place in the materia medica. Besides its main property, that of a local anesthetic on wounds and ulcers, orthoform possesses a marked power of inhibiting the growth of streptococci, staphylococci and other pyogenic microorganisms. It is not easy to say to what extent true bactericidal activity is present; while the injection of one-twentieth of a c.c. of a pure streptococcus culture to which orthoform had been added ten hours before did not prove fatal to a rabbit, the author is not inclined to regard the drug as strongly antiseptic since a similar culture which had been exposed to the drug but five minutes was followed by the death of the animal on injecting. It was next of interest to ascertain if orthoform could be combined with the usual antiseptics without itself undergoing decomposition. Iodoform, dermatol, europhen and aristol gave negative results, so also calomel, salicylic and carbolic acids, lysol, cresol, lead-water, boric acid and aluminium acetate, ichthyol, turpentine, iodine and copper sulphate. Bismuth subnitrate, potassium permanganate and silver nitrate on the other hand underwent chemical change with orthoform, while with bichloride of mercury and formaldehyde, a precipitation resulted which did not, however, sufficiently damage the orthoform to make it inactive. The anesthetic power of the drug in question appeared promptly after three to eight minutes, no matter what the character, location or size of the wound or ulcer. The pain may not reappear for hours or days, depending somewhat on the local conditions present.

Chloroform Narcosis.—Very interesting contributions have been made to the signs and symptoms appearing on the eve of asphyxia attending chloroform narcosis by Koblanck (*Centralblatt für Gynäcol.*, Jan. 6, 1900). In his article Koblanck states that he has rarely seen mentioned by any one of the numerous writers on the subject any reference whatever to the important athetoid movements of the fingers just previous to impending asphyxia in chloroform anesthesia. These movements are not, however, entirely confined to the fingers but occasionally are seen in the eyelids and eyeball and also in the wrist-joint. This symptom of athetosis is not to be confounded with the voluntary movements seen in the repelling motions made by the patient before full narcosis is obtained; it is only when complete anesthesia has been obtained and all reflexes have vanished that this athetosis is seen. Roblanck lays the greatest possible stress on this symptom, for he says that when it appears, this first sign of danger gives due warning. As yet the pulse and respiration are unchanged and the pupils are either contracted or only moderately wide and, therefore, without reaction. In this state, if more chloroform be given, the well-known signs of asphyxia supervene; if on the other hand the mask is immediately removed, these athetoid movements cease, although the patient is still in complete narcosis and it only very seldom occurs that the respiration and the pulse are depressed. If more attention were paid to this sign of impending asphyxia, it would happen less often for anesthetists to see patients succumb "who had only a moment before breathed well." Another point pregnant with possibilities is the importance attaching to the proper methods of managing a case in which asphyxia has already set in. Koblanck states that the proper method of freeing the air passages is to seize the epiglottis directly with the fingers and draw it forward. Although, very properly, this method is looked upon on all sides as the only proper life-saving one, yet it is curious to notice that in the majority of articles devoted to this subject, not a word is said regarding it. The idea that, in anesthesia of women especially, the pushing forward of the jaw and the drawing out of the tongue with forceps is sufficient to clear the entrance to the trachea is a grievous error and one replete with grave consequences. It is only when

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the air-passages are entirely free that the methods for artificial respiration are of any value. It is hoped that these few words will be conducive to the early recognition of impending asphyxia and to the proper method and means of preventing and managing such cases when they occur.

Old Elbow-Joint Dislocations.—Bunge (*Archiv. f. klin. Chir.*, Vol. 60, p. 557) emphasizes the fact that separated portions of bone often prevent reduction in cases of backward dislocation at the elbow. In seventeen cases in which operation was performed, such a fracture was wanting in only three instances. The piece which is broken off is often the epicondyle. The fragment may be the size of a pea or it may be many times as large, including a part of the trochlear surface of the humerus. It may also come from the olecranon or from the coronoid process of the ulna. The use of the X-ray has greatly aided in the location of such fragments, but it is not safe to trust to radiography alone, as often a part or the whole of the fragment does not appear in the radiograph. The commonest situations for the fragment are the anterior and posterior fossæ above the articular surface of the humerus. The presence of such a fragment may prevent reduction, and in case some time has elapsed since the accident, strips of periosteum, which have been torn from their normal situation, may lead to the formation of new bone which will obscure the diagnosis and still further prevent reduction. Bunge advocates one or two long longitudinal incisions made over the condyles of the humerus. The first incision made should be on the outer side of the arm, as in some instances it alone will suffice. These incisions do not expose the joint as well as a transverse incision, but they have the great advantage of preserving intact the apparatus for flexion and extension of the arm. After reduction is accomplished the forearm should be put up at an oblique angle, fully pronated, since supination tends to reproduce the dislocation. In from three to five days, if the wound heals well, the surgeon should begin to make passive motions of flexion and extension in order to secure a movable joint. This plan of treatment will not give a perfect joint in every case, but the results thus far obtained are very satisfactory.

Antitoxin in Diphtheria.—There have been recently a number of reports given in the medical journals adverse to the use of antitoxin in diphtheria. The evidences, which come from the general practitioner, seem to throw some doubt on the value of previous excellent statistics and on the statements of good authority that "the problems concerning diphtheria have been completely solved so far as its practical aspects are concerned." A. Rupp (*N Y. Med. Jour.*, Jan. 2, 1900) contends that too much dependence has been placed on the value of this antitoxin and that many practitioners have now come to use this method of treatment in order to give themselves "peace of mind" rather than with the expectation of any decided benefit. He further believes that in a large number of true clinical cases of diphtheria no Klebs-Loeffler bacillus can be found and that the etiological relation of this germ to diphtheria has by no means been proven.

Apoplexy of Uterus.—It has been the experience of M. Simmonds (*Münch. med. Woch.*, Jan. 9, 1900) that the post-mortem of every third or fourth woman beyond sixty years of age shows, to a varying intensity, a hemorrhagic infiltration of the uterine walls. Histologically there are all the signs of an infarct in the endometrium and adjacent muscularis; the walls of the arteries are calcareously degenerated and necrotic foci of tissue are present in the surrounding tissues. The color of the blood and the lack of pigment show the lesion to be of recent origin, that is, probably resulting during the death agony. It is probable that some of the severe hemorrhages seen during the climacteric may be of the same origin, and this possibility should be borne in mind when all other etiological factors have been excluded. Hysterectomy would be indicated.

Suture of Bladder.—Golischewsky (*Archiv f. klin. Chir.*, Vol. 60, p. 643) says that an incision in the bladder should be sutured immediately, provided no chronic cystitis is present, nor hypertrophy, and the patient is not a hemophiliac, and the kidneys are not seriously affected. A marked hypertrophy of the bladder wall makes it necessary to apply ligatures to its vessels. These can find their way into the viscus if the wound is closed and give rise to formation of stones. He has practised immediate suture in thirty-five cases. One patient, a marasmic child of three years, died in eighteen hours of anuria. There was a left-sided hydronephrosis and double chronic interstitial nephritis. Another patient who had double hydronephrosis, chronic interstitial nephritis and chronic cystitis, died in four days. In five cases there was a leakage of urine. In two of these the wound in the bladder was opened and allowed to close itself. In the other three a catheter was passed and left in the bladder for some days. The fistulæ closed in from two to ten days. In one case hemorrhage compelled the reopening of the bladder. The remaining twenty-seven patients recovered without accident. These results are a sufficient recommendation of this method of treatment.

Home Treatment for Consumptives.—It is often found necessary or desirable to treat cases of pulmonary tuberculosis at home instead of sending them to specially adapted sanatoria. Several very valuable hints to the general practitioner are given by S. A. Knopf (*Med. Record*, Jan. 27, 1900). Under general hygiene he advises the choice of a large, light and well-ventilated room, made as cheerful as possible, but with simple furniture and that which may be easily cleaned without raising any dust. A tuberculous patient should always sleep alone. The careful disposal

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of the sputum and other secretions which may contain the bacilli is especially important and must be urgently insisted on. He recommends the use of the aluminum or other metal spit-cup which may be thoroughly boiled or the Seabury and Johnson paper folded cup, which is burned. Dampened cloths may be used and immediately burned. As far as diet is concerned it is important for the patient to understand that his digestive powers are far greater than his appetite indicates. Milk and eggs are, of course, staple articles, but they must be tastefully prepared and given now and then with sherry or whiskey. Steaks, chops, poultry, roast meats, and fish, together with a liberal supply of vegetables, especially spinach, are to be allowed. Light puddings, fruits and nuts should constitute the desserts. The heartiest meal should come between twelve and two o'clock. Remaining in the open air the greater part of the day is essential to the successful treatment at home and may usually be accomplished by providing a suitable protection around the couch or chair to prevent the wind blowing directly on the patient. Walking exercises should be indulged in, but must be carefully regulated, and not carried to the point where the temperature is elevated thereby. A persisting temperature of 100° F. is a contraindication to exercise. Much good is often obtained from the use of the cold douche in the morning especially when applied to the chest and spine. Prophylaxis is, of course, more valuable than radical treatment and hence the welfare of each member of the family should be carefully guarded and the first indication for treatment met.

Rachitis and Suprarenal Extract.—Peculiar crystals have been found in the medulla of the bones of rachitic children treated with suprarenal extract by Stoeltzner and Salge (*Münch. med. Woch.*, Jan. 9, 1900). They appeared as radially and concentrically striated globules or as thin needles when the sections had been preserved for some time in diluted alcohol. After evaporation of an aqueous solution, crystals similar to spermin were seen, but the exact chemical nature has not yet been settled.

Etiology and Symptomatology of Goiter.—The causation of the different forms of goiter as well as the relationship between the size of the goiter and the local and constitutional symptoms which appear, have long proven stumbling-blocks both to the pathologist and clinician. J. G. Adami (*Practitioner*, Jan., 1900) has reviewed the ordinarily advanced causes and has strongly urged the existence of a close relation between the exophthalmic goiter and the ordinary one. Among the less probable causes are a mountainous life and the geological conformation of the country. Evidence has clearly shown that drinking water has a marked effect on the production of goiters, but what the true cause is can only be surmised. That it is infective has seemed probable in some cases. The symptoms of the ordinary goiter he divides into those due to pressure upon the trachea, esophagus, arteries and veins of the neck and upon several nerves, such as the inferior laryngeal, vagus, sympathetic and cardiac branches. Psychical disturbances also occur, which may take the form of dulness and low mental power similar to cases of myxedema, or they may be those of mental irritation, as found in exophthalmic goiter. He also shows how in the ordinary goiter attacks of tachycardia may occur and various symptoms of mental excitement, either transitory or later becoming more constant and perhaps developing a true case of Graves' disease. Furthermore, he points out those cases which have the symptoms of an exophthalmic goiter without the exophthalmos and without the goiter. The relationship of the pathology of these conditions and the symptoms manifested is extremely novel and interesting. It is believed that the common colloid goiter is preeminently a condition not so much of hyperplasia and overgrowth of the specific thyroid tissue as of retention of the glandular secretion. Thus there may be complete retention with all the symptoms of myxedema, or a localized retention in which event the healthy thyroid performs the functions of the gland and the symptoms due to pressure of the tumor are alone present. Again, the localized disturbance may lead to a retention with the occasional increased absorption or discharge of the retained material, resulting in the paroxysmal attacks of dyspnea, diarrhea, tachycardia, etc. In primary Graves' disease there is an increased activity of the gland with hyperplasia of the tissue without retention or, as in the peculiar cases mentioned above, there may be increased activity without any recognizable enlargement of the organ. Thus the essential cause of Graves' disease differs from that of the ordinary goiter since it results in a nervous or other stimulus leading to an increased activity and secretion. In the simple ordinary goiter the sudden liberation of some of the retained secretion best accounts for the paroxysmal attacks which occur, as well as for the dangerous and sometimes fatal results following the operative handling of the diseased gland.

Prolapse of the Rectum.—Dudloff (*Archiv für klinische Chirurgie*, Vol. 9, pp. 717-811) divides cases of prolapse into three groups, designated as follows: (1) Proplapsus ani; (2) prolapsus recti, prolapsus ani et recti; (3) prolapsus coli invaginati. These three groups are quite distinct in pathogenesis and treatment. The cause of prolapsus ani is obstruction of the circulation, and the condition is essentially a hemorrhoidal one. Proplapse of the anus and rectum, or the rectum alone, includes all layers of this organ. It is really a perineal hernia whose sac is formed by the rectum itself. In the third class are included cases of invagination pure and simple. Resection of the affected portion of the rectum is the operation of choice. It is contraindicated in long invagination of the colon, but is strictly indicated if the prolapse is incarcerated or irreducible. In

certain cases milder measures, such as massage or fixation of the colon, may be tried. If the patient is very weak and cannot withstand narcosis or hemorrhage, ligature may be applied. Colopexy with the formation of an artificial anus is to be rejected. Cauterization is of benefit in cases of prolapse of the anus, or prolapse of the rectum, in children, and as an additional measure in instances in which operation has been only partially successful. Galvanic treatment sometimes succeeds with nervous patients and those who can afford a long course of treatment. Rectopexy, Gersuny's twist, and rings of silver wire are unsuccessful and injurious procedures. In some instances it may be necessary to establish a sacral anus. Prolapse may be due to syphilis, and if so demands antisyphilitic remedies. Before any operative procedure is undertaken the bowels should be thoroughly moved for several days; and for several weeks after the operation the patient should defecate in only a horizontal position.

Laboratory Milk for Infant-feeding.—Laboratory milk is theoretically a perfect substitute for normal human milk, as it is prepared under the best conditions as regards cleanliness, has a fixed alkalinity, definite percentages of fat, sugar, and proteids, and is given in uniform daily quantity. Starr (*Archives of Pediatrics*, Jan., 1900) however, cites fifty-four cases in only three of which could the milk be continued up to the time of beginning a mixed diet; in sixteen the health gradually failed, so that the food was discontinued after from six months to a year; and in the other thirty-five cases acute dietetic disorders, chiefly acute gastritis and scurvy, required its early discontinuance. The reason for this is thought to be the destruction of the natural emulsion by the laboratory methods of separating the fat, this resulting in diminished digestibility of the proteids. A child of ten months, which can take only 1.50 per cent. proteids in laboratory milk will thrive on the following mixture containing 2.97 per cent. proteids: Cream 16 per cent. ℥ss, milk ℥ss, milk sugar, ℥i, water ℥ii, such a mixture retaining the natural emulsion, and being easily prepared and pasteurized at home.

Infantile Convulsions.—A general résumé of eclampsia of infants is given by J. Lange (*Münch. med. Woch.*, Jan. 9, 1900). The condition usually appears suddenly in a previously healthy child, with or without laryngeal spasm, then follows a tonic convulsion and soon clonic contractions, varying in duration from seconds to hours and terminating either in death or in exhaustion and sleep, during which the attack may recur. Consciousness is lost, the pupillary and corneal reflexes are absent, the eyes are widely open and are rolled about; the large fontanelle may bulge, there may be trismus and foam about the mouth. Soon the respiration becomes stertorous and the defective aëration shows itself in cyanosis. The feces and urine may pass involuntarily; wrinkling of the forehead, nystagmus, strabismus and protrusion of the mouth may be observed. The upper extremity is carried in a rather characteristic manner: the arm is pressed toward the trunk, the elbow and wrist are flexed and the fingers pressed over the thumb or more rarely hyperextended. The abdomen is often contracted and meteorism may be present while the feet may be in the pes equinus position. Unless the respiratory muscles are involved the attacks may last for hours and the termination is indicated by a disturbed rhythm in the convulsions, deeper respirations, pallor or flushing of the skin and perspiration. Mental dulness and sleep usually follow, after which the patients are well again but for some slight lassitude and diminished color. Etiologically infantile convulsions must be divided into organic and functional, but probably many of the latter will be found to be organic when a knowledge of the subject becomes more complete, since as yet the pathological findings have been very unsatisfactory. The exciting causes are legion, if it is remembered that any sensory irritation of the skin or mucous membranes of the respiratory, alimentary or urogenital tract may be followed by an attack, provided the individual is so predisposed. It seems possible that during an attack there are rapid fluctuations of the blood-pressure in the finest brain capillaries and that the irritation, just as in epilepsy, starts from the motor zone, while the explanation of the greater disposition to convulsions in infants is sought for in the non-development of the inhibitory apparatus. An infectious eclampsia, during the onset of acute infectious fevers is also recognized, but whether the convulsions are due to the fever or the bacterial toxins is not quite clear. The chronic infectious and constitutional diseases are also prolific causes of the disorder. With reference to alimentary or metabolic auto-intoxications as possible factors the author tested the toxicity of the urine of a number of cases, but could get positive results only in two. Taking all into consideration, it must be conceded that the ultimate cause of infantile eclampsia is as yet shrouded in darkness. It may sometimes be necessary to differentiate it from epilepsy, but this is often impossible. The diagnosis, must, however, be in favor of epilepsy when there is a bad hereditary taint, when the convulsions occur at varying intervals without any ascertainable cause, and when during the interim there are manifest psychical and vasomotor disturbances.

Nasal Alimentation.—Salomon (*Le Progrés Médicale*, Jan. 13, 1900) describes a method of administering liquids, whether as food or remedies, to patients in whom the more usual means are inapplicable. Rectal feeding is often inadequate or impossible; in comatose or delirious patients the use of the stomach-tube is attended with difficulty and in some cases with danger, and even the expedient of reaching the esophagus by means of a catheter passed through the nostril is frequently rendered ineffectual in in-

same patients who learn to get the end into their mouths and compress it with their teeth. Under such circumstances a maneuvre that he recommends as simple, safe, and certain is, with a teaspoon to pour the fluid directly into the nares. One nostril is plugged with cotton and the other may, if desired, be cocainized, although this is not at all essential. With the patient in the dorsal position, the head being steadied if necessary by an assistant and kept extended; the operator at the beginning of an inspiration lets the contents of the spoon glide into the nasal orifice, when it will be found that, aided by gravity and the inspiratory suction, the fluid trickles over the vault of the pharynx and avoiding the epiglottis excites the swallowing reflex and is carried down the esophagus. Even substances that ordinarily are strongly irritating to the mucous membrane can be easily administered in this way, the explanation probably being that as the epiglottis is not reached reflex spasm is not excited. If the method is to be used for feeding, obviously to save time it is advisable that the solutions used should be as concentrated as possible. It has been in constant use by the author for twenty years and he has never seen any unpleasant consequences.

Herniotomy under Local Anesthesia.—H. Cushing (*Annals of Surgery*, Jan., 1900) presents interesting data on herniotomy under local anesthesia. General anesthesia is still preferred, but there are certain cases in which it would be a source of danger, as in advanced age, chronic bronchitis and emphysema, pulmonary or laryngeal tuberculosis, marked cardiovascular changes, chronic nephritis, and, above all, shock and vomiting in strangulated hernia. Previous to the use of local anesthesia many patients with hernia were discouraged from seeking operative interference because of the immediate danger of the anesthetic. Bull and Coley (*Annals of Surgery*, 1898) regard sixty years of age as, in general, a contraindication to operation. During the past few months at Johns Hopkins Hospital there have been fourteen cases of herniotomy done under local anesthesia on patients ranging from sixty to eighty-four years of age. For strangulated hernia local anesthesia is specially adapted, for, by avoiding the dangers of the general anesthetic, both primary and secondary, one may keep the balance in favor of an organism almost overcome by shock, by toxines from the bowel, by depletion from repeated vomiting and lack of nourishment. Under a local anesthetic, with danger to the patient, the sac may be exposed, the constriction relieved, and the gut treated according to its condition. If it is viable and the patient's general condition warrants it, a radical cure may be done; otherwise the radical cure may be left until a later date. If the gut is not viable the establishment of an intestinal fistula is the safest procedure. This is readily done under the local anesthetic, and intestinal suture is done later, with far less risk. To succeed in major operations with local anesthesia, an accurate knowledge of the course and situation of the nerves to be encountered is essential, since accidental division of an unexpected sensory trunk often overcomes the inhibition to pain and renders complete narcosis necessary. The hernia skin incision divides filaments of the twelfth dorsal and first lumbar nerves above and of the ilio-hypogastric nerve below. Of the deeper nerves, the ilio-inguinal and genital branch of the genitocrural nerves are usually found as one trunk in the deeper part of the canal, and the early cocainization of this after splitting the aponeurosis is perhaps the most important step of the operation. The usual anesthetic result is a complete loss of sensation of the entire scrotal contents, cord, sac, and testicle, and the inner side of Scarpa's triangle. There is no surface anesthesia of the scrotum itself. Sometimes there is sensation left in the lower attachments of the testicle, supplied by the superficial perineal nerve. If the lower border of the internal oblique muscle is to be cut it must first be injected to anesthetize the trunk of the iliohypogastric nerve which is found there. Schleich's solution, No. 2 (cocaine mur., 0.10; morph. mur., .02; sodii chlor., .20; aq. dest., ad 100) was used. It is practically non-toxic and may be sterilized without dissolution. For the undivided nerve-trunks one-half to one per cent. cocaine was used. Preparatory to operation patients of advanced age are kept in bed several days to see if they can endure recumbency, and to train them to void urine in bed. Three-quarters of an hour before operation one-tenth to one-eighth of a grain of morphine is given hypodermatically and repeated shortly before going to the table. The patient is cleansed, the line of incision infiltrated with the cocaine solution and the incision immediately made through the linear wheal, bleeding points clamped and the field kept dry. Only the upper end of the incision is carried down to the aponeurosis, which is opened and the ileohypogastric and inguinal nerves cocainized with one-per-cent. solution. The lower end of the incision may then be painlessly completed. No further use of the anesthetic is needed. The ileo-inguinal and genital nerves should not be damaged because of resulting cremasteric and scrotal paralysis. The remainder of the operation may be completed according to the preference of the operating surgeon. When, in large hernias, the two rings have become concentric and the conjoined tendon therefore absent, Bloodgood (Johns Hopkins Hospital) opens the rectus sheath and transplants the muscle to form a posterior wall to the inguinal canal. No additional cocaine is needed. If, as occasionally happens, the patient begins to feel pain and loses self-control, a few whiffs of chloroform relieve the pain without the loss of consciousness. There have been no "after-pains," and healing has been absolutely unaffected. The advantages of the method are: (1) No post-anesthetic sequelæ; (2) urinary disturbances are less frequent; (3) diet is unchanged; (4) dress-

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ings may be applied originally to suit the comfort of the patient; and (5) above all, the dangers of general anesthesia are avoided. Disadvantages: (1) The operation is a little more prolonged and difficult; (2) some pain is inflicted, but this does not compare with the discomforts of recovery from ether anesthesia.

For Infantile Dyspepsia.—Rochkovsky, of Warsaw, recommends the use of peroxid of calcium for this disorder, whether of the variety accompanied by fetid, mucous stools, or that in which the latter are indigested, resembling chopped-up eggs. The remedy is a yellowish powder, insoluble in water, and has a double therapeutic action; it is antacid by reason of its base and antiseptic because of the slow but constant decomposition which it undergoes with the consequent evolution of nascent oxygen. The daily dose is 3 to 10 grains, given in milk; within three to ten days the stools become normal and the disorder is cured.

For Chronic Catarrh.—The chronic catarrhal inflammation seen in smokers, public speakers, in those exposed to an irritating atmosphere, or as an accompaniment of chronic rhinitis can, according to Condié, be cured or greatly modified by systematic massage. He uses a metal instrument which consists of a slender handle bent near its further end to a more or less obtuse angle and terminating in two prongs holding a revolving ball, the surface of which is smoothly polished. The instrument can conveniently be sterilized in the flame. First the posterior wall and then the lateral walls are treated, the ball always being rolled from above downward in the direction of the veins and lymphatics, at first with very light, then with gradually increasing pressure. Cocaine should be used to diminish reflex action until the pharnyx becomes accustomed to the treatment. A slight soreness is the only after-effect observed. Daily treatment is followed by increased activity of circulation and absorption of the interstitial exudate, while the process favors desquamation and regeneration of the epithelium.

For Bronchitis or Pleurisy.—

℞ Ol. Terebinth .....ʒ iii
Ac. Acetici .....3 v
Ol. Limonis .....♏ lxxv
Aq. Rosæ .....ʒ iiss
Vitell. Ovi..... 1.

M. Ft. linimentum. Sig. To be rubbed on the chest.—*Stokes.*

Treatment of Varicella.—The following statements are credited to Gillet: Unless there is secondary infection of the vesicles suppuration will not occur, and to prevent it and possible cicatrization we need only protect them from irritation and injury. Cleansing the body with a solution of boric acid is preferable to immersion in a bath until the vesicles have dried to scabs, and it is a good plan to powder the body with talcum, bismuth, or zinc oxid. Vesicles showing signs of irritation should be painted with a solution of bichlorid in mentholated oil, or covered with carbolated vaseline or some other antiseptic ointment. The nasal passages should be cleansed and the throat gargled with a strong boric acid solution. When scabbing is complete bichlorid or green soap should be used in the baths. Special attention should be paid to the condition of the conjunctivæ, anus, external genitals, and of contiguous surfaces of the skin. In respect to internal treatment we should prescribe purgatives, preferably calomel, soothing drinks, and such as favor diuresis, as weak lemonade, orange juice, etc. The diet should be light, consisting of milk, eggs, and farinaceous foods. The average duration of the quarantine, depending on the disappearance of the scabs, is twenty-five days, after which time the child may return to school.

Uses of Chloroform Water.—According to Pouchet, chloroform water is not only an agreeable adjuvant in sleeping potions and the like, but because of its antiseptic qualities is well adapted for the preservation of alkaloids in solution for hypodermic use. It has an analgesic effect on the gastro-intestinal mucosa and may be looked upon also as a mild intestinal antiseptic. Pouchet gives the following formulæ:

℞ Morphinæ hydrochlor.....gr. ⅙
Aq. chloroformi sat.....ʒi
Aq. aurantii fl.....ʒi
Syr. simpl. .....ʒss

M. Sig. Take one-half as sleeping potion.

℞ Potassii brom.....3 ss — 3 i
Aq. chloroformi dil.....ʒ iii
Aq. aurantii fl.....ʒ i
Syr. simpl.....3 v.

M. Sig. Dose as directed.

Dilute chloroform water is prepared by mixing the saturated solution with an equal quantity of distilled water.

For Diabetes in Children.—The following formulæ are recommended by Legendre:

1.—

℞ Antipyrini .....3 iiss
Glycerini..... .....ʒ i
Aq. dest.....ʒ v.

M. Sig. One to four teaspoonfuls a day.

2.—

℞ Strychninæ sulph.....gr. 1/10
Sodii arseniat.....gr. ½
Codeïnæ .....gr. ii
Quininæ valerianat.....gr. x
Ext. valerianæ.....q. s.

M. Ft. pil. No. xii. Sig. One to six pills a day.

For After-Pains.—

℞ Tinct. viburn. prun. } aa.....3 ii ss.
Tinct. hydrastis... }

M. Sig. Ten drops in a little water every two hours.

Relief is sometimes best obtained by means of rectal medication, as follows:

℞ Chloralhydrate.....3 ss — 3 i
Yellow of egg.....No. i
Water or milk (warm).....ʒ ii.

M. Sig. For injection.—*Vicaire.*

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SATURDAY, FEBRUARY 3, 1900.

THE NEW YORK STATE MEDICAL SOCIETY.

WE publish in this issue a complete report of the annual meeting which came to a close on Thursday last, and also some of the more important papers. The meeting, from the standpoint of scientific work presented, ranks among the foremost in the history of the Society. The president set a worthy example by devoting the anniversary address to the presentation of a thoroughly scientific subject, thus relegating the politics and business of the Society to the respective committees, where they naturally belong. The address was therefore, interesting and instructive, and demonstrates the fact that bacteriology is taking fully as strong a hold on surgery as on general medicine. From the standard of surgical requirements insisted on, and this is the standard not of the future, but of the present and now, it becomes evident that the successful surgeon is no longer a mere mechanical expert, deft of hand and quick in resources, but a thoroughly equipped man of science whose judgments and decisions must be based in each individual case on investigations of far-reaching import. The address, which may be found in this issue, is wholesome reading not only for the ambitious tyro about to launch into the flood of surgical experience, but also for the active surgeon and general practitioner who ventures in where wiser men fear to tread.

No little interest of the meeting was centered upon the question of State sanatoria for consumptives. An effort was made to have the subject presented in all its aspects, as may be seen by the report, and to convince the State legislators of the importance of the undertaking. But the prospect of any legislation upon the subject at this session is very problematical. This is due, however, not so much to lack of interest or of conviction, for the subject was presented most convincingly both at the general meeting in the Assembly Chamber on Tuesday evening and also before the Committee to which the bill has been referred, but to the unusual demands that are now being made upon the exchequer of the State. These have special reference to the canal schemes. It must be admitted also that the unfortunate lack of unanimity in the profession regarding the practical application of the sanatorium experiment gives legislators a loophole for escape. Some are in favor of one large building in the Adirondacks, others advocate numerous small sanatoria in the vicinity of populous centers, and still others advise appropriations for the support of charity patients in private sanatoria already established. The advocates of these various plans should come together and agree upon some one of these recommendations. In this way unanimity of action will be secured and a solid front presented to the Legislature. Whatever plan is adopted the experiment cannot but prove successful, and pave the way for larger and more permanent establishments.

CARE AND TREATMENT OF EPILEPSY.

IT is the victim of a hopelessly incurable disease that seeks refuge in the nostrums of quacks; and there is something indescribably pathetic in the way that an epileptic delivers up his dozen or more "sure cures" when he enters upon the new régime of treatment that is in reality his only chance of improvement.

From Germany, France and England, but especially from New York State comes the lesson that education and out-door occupation are the bases of improvement in epilepsy; and often work absolute cure, a result which can be attained in no other way. At Craig Colony, New York epileptic village, medical treatment for

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the disease has been practically abandoned, and regular hours for sleep, a simple diet, chiefly vegetarian, baths, exercise, work and instruction have been substituted, with most gratifying results. In epilepsy it is the individual and not the disease that must be treated. It is through improvement in physical, mental, and moral tone that the patient climbs up out of the state of lazy inert, irascible despair, in which his whole condition is that of progressive degeneration, and acquires an active, useful, cheerful habit of life, which in nearly all cases tends toward fewer and fewer attacks. Nothing contributes to this end so rapidly as congenial, healthy employment, especialy that out-of-doors, where the sunshine, fresh air and surroundings of nature draw his mind from himself and his disease.

It is very difficult to provide suitable treatment for an epileptic at home, especially if he be a child. His inability to attend school or church, his sensitiveness regarding his peculiarity, his outburst of temper, his lack of training, all tend to make him a slovenly, unbearable burden to his friends. And yet he is, at most times, capable of work and enjoyment, and in many cases almost as bright intellectually as a normal child. Therefore is it nothing short of crime to confine him in an institution with the insane or the feeble-minded, where it is his positive doom to become like them.

The Hon. William Pryor Letchworth, in his recent work, "Care and Treatment of Epileptics," has reviewed the whole history of failures in past methods of treatment and has outlined the village system, as it at present exists in successful operation at Craig Colony, in the Genesee Valley. There the patients are divided into groups of twenty or thirty, according to their degree of compatibility, or capacity, and live in separate homes. They do their own housework and have recreations according to their tastes. The children live together, and those that are able attend the colony school, where the instruction is pursued along kindergarten lines and where the development of skill in their fingers tends toward the practical side of life. They go to services and concerts in the chapel; give entertainments and enjoy life as other children do. Meanwhile, they are being trained to support themselves, in the event of their cure, or to do their share of the colony work as long as they live there.

The farm and stock of the colony produce under the patients' labor a large proportion of the colony's food, and from the clay-beds they have made brick enough to put up a number of their buildings. Nearly all the daily occupations of any village life, washing, sewing, waiting, cobbling, gardening, street-cleaning, etc., are represented in patients who, if they were normal, would be fitted for such a sphere, but who by reason of their infirmity cannot keep a position in the world of competition. Nurses, educated in the art of training, work with the patients, study their difficiencies and abilities, and fit them into the niche best suited for them; while expert physicians living in the colony direct the individual treatment of each.

The whole plan in its broadest aspects has been a cherished idea of Mr. Letchworth's for years; and as one of the foremost students of philanthropy and sociology in the State, his voice upon the subject combines the tone of authority and experience. His book is not the plea of a dreamer of social reforms, it is a keen, practical, detailed account of how to bring about and accomplish what most people only talk about. To care for the dependent classes, without pauperizing them, and without overtaxing the community, and to care for the hitherto almost uncurable epileptic in such a way that he may be benefited without sedative drugs, but by the skilful appreciation of the laws of nature, is the problem which Mr. Letchworth has solved in his work; and every State in the Union, and every private sanatorium for epileptics in the country, could not do better than study the question from his standpoint.

ECHOES AND NEWS.

NEW YORK.

Military Surgery.—Major Louis A. La Garde, M.D., U. S. A., will deliver a course of lectures on Military Surgery on Saturday mornings, beginning Saturday, February 3d, at 11 o'clock, in the University and Bellevue Hospital Medical College.

Marine Hospital Service Examination.—The board of examiners will meet at 378 Washington street, New York City, Wednesday, February 7, 1900, for the purpose of examining candidates for appointment as assistant-surgeon in the service. Dr. R. H. M. Dawbarn, No. 105 West 74th street, prepares candidates for these examinations and will gladly furnish definite information regarding them.

Health Report.—The Health Department presents the following report of contagious diseases for the week ending January 27, 1900: Measles, 824 cases and 32 deaths; diphtheria, 285 cases

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and 53 deaths; laryngeal diphtheria (croup), 28 cases and 8 deaths; scarlet fever, 228 cases and 16 deaths; smallpox, 3 cases; chicken-pox, 41 cases; tuberculosis, 223 cases and 156 deaths; typhoid fever, 28 cases and 7 deaths; cerebrospinal meningitis, 5 deaths.

New Mt. Sinai Hospital.—Prospects for the speedy erection of the new Mt. Sinai Hospital, which is to cover the entire block bounded by Fifth and Madison avenue, One Hundredth and One Hundred and First streets, were discussed at the annual meeting of the directors held on January 28th. The reports of the Treasurer and Finance Committee showed the following assets: Plot of ground for new hospital (cost $531,682.04 less a mortgage of $80,000) $451,682.04; invested in bonds and mortgages, $150,000; cash in hands of Treasurer, $4851.52; building fund (held in trust), $439,174.88. An additional $500,000 must be raised to cover the cost of the new buildings. During the past year 304 patients were turned away because of lack of room.

Insanity among Criminals.—New York State Superintendent of Prisons Collins, in his annual report, which was submitted to the Legislature on January 29th, sets forth that there are now confined at the Matteawan Hospital for Insane Criminals nearly 200 more than the building was designed to accommodate. It was built for 550 patients, while 719 are now crowded into it. This over-population requires the earliest practicable completion of the new hospital at Dannemora, so as to afford the necessary relief at Matteawan. A peculiar fact is that the Elmira Reformatory sent during the last year five times as many insane to the prison as all of the state prisons put together.

The State Sanitarium.—In the report which is to be presented to the Legislature at Albany in support of a bill for a state sanitarium for the treatment of incipient phthisis, the following rules are tabulated and given as embodying the essentials for decreasing the death-rate from consumption or stamping out the disease altogether: (1) The ultimate inclusion, when public opinion is ripe for that step, of consumption in the list of notifiable diseases. (2) Public and official announcement of the fact that, in the event of a person having died of consumption, the rooms occupied by him will be disinfected by the sanitary authorities free of charge. (3) The passing of an act making it illegal to let any house or room in which any person, within two months, has suffered from consumption, without having had it properly disinfected. (4) To make it an offense punishable by fine or imprisonment for any person letting a house or room wilfully to conceal or deny that there has been consumption in the house. (5) To call the attention of shipping agents to the fact that there is danger to a healthy person in occupying the same cabin with a consumptive. (6) To make it compulsory for a consumptive person taking a long voyage by sea to notify the nature of his complaint before starting. (7) To call the attention of railroad companies, or lines connected with well-known health resorts for consumptives, to the necessity for having the sleeping-cars carefully cleaned with some disinfecting solution, and, above all, thoroughly aired. (8) The removal of hospitals for consumptives in large cities to some convenient and open suburb. (9) The exercise of greater care in the inspection of carcases intended for food, and the compulsory rejection of those indicating tubercular disease. (10) The rejection, as an article of fluid food, of the milk of tuberculous cows. (11) The inspection of herds by paid officials, with the view of destroying tuberculous disease, and isolating or destroying tuberculous animals. (12) The prevention of overcrowding among animals intended for consumption as food. (13) The prevention of overcrowding among people. (14) Back to back houses should be condemned, and the height of houses in cities should be in proportion to the width of the streets. (15) Blind alleys should be opened out, and the custom of building houses at right angles to the length of the streets should be forbidden. (16) Dusty occupations should be strictly regulated, so as to minimize the danger to those who are compelled to follow them. (17) Convents and other religious communities should be periodically inspected by some independent authority.

PHILADELPHIA.

Health Report.—Deaths in the city for the week ending January 27th, were 498, a decrease from last week of 27 and a decrease of 20 from the corresponding week of last year. Contagious diseases: Diphtheria, 128 cases, 23 deaths; scarlet fever, 66 cases, 5 deaths; enteric fever, 44 cases, 9 deaths.

German Hospital.—The report of the medical board for 1899 has been submitted. During the year 3631 new patients were admitted and the dispensary visits numbered 45,477. The total number of operations was 1099. A fire-escape with especially wide stairs has been constructed and helpless patients can now be removed with comparative ease and safety.

Circulating Library Closed.—The health officer of Scranton has closed the circulating department of the public library in that place. It was believed that the circulation of books had some part in the spread of diphtheria and scarlet fever which have been epidemic in the town for some time, and which recently caused the closure of certain of its schools. The report of last week shows diphtheria to be decreasing, while scarlet fever is still spreading.

Gift to the University.—Mr. James Dundas Lippincott has made a donation which provides for a private operating-room for the hospital of the University of Pennsylvania in memory of his uncle, James Dundas. The suite will consist of four sections. These include a large operating-

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room in the center, a sterilizing-room and a professor's bath-room opening from this on one side, and an etherizing and recovery-room for patients on the other. The erection of this memorial, which will be begun shortly, will give the University one of the finest and best equipped private operating-rooms in any hospital of this country.

Illegal Sale of Drugs.—The Pennsylvania State Board of Pharmacy has just completed a week's session in this city. Three hundred and twelve persons applied to the board for license, one of the successful candidates being a woman. Investigations warrant the belief that evidence sufficient to prosecute has been obtained in 150 cases of illegal drug selling in Philadelphia alone. It is found that opium or morphine and many of the more virulent drugs may be obtained with facility. While looking after these cases the Board also hopes to lessen the adulteration of drugs and the practise of substitution in the preparation of prescriptions.

Antivivisectionists.—The seventeenth annual meeting of the American Antivivisection Society was held in this city January 25th. In an address the corresponding secretary stated that vivisection of human beings was the legitimate outcome of the vivisection of animals. If the torture and dissection of dumb beasts was allowed to continue it would soon become a menace to human beings, not only to the patients of charity hospitals, but also to the citizens outside of institutions. The desire for discovering something new becomes in the investigator a mania which is not satisfied with the lower animals, but impels him to use human subjects as more valuable in the way of obtaining reliable results. There is no doubt that numbers of atrocious and inhuman experiments have been and are being made upon poor patients in the hospitals of European cities and in at least one of our own States, that State being Massachusetts. Dr. Matthew Woods, who was re-elected President, stated that this work was carried on mainly by students instead of physicians. The Gallinger bill was discussed and the systematic introduction of antivivisection ideas into every large city urged.

Typhoid Fever.—The meeting of the Pathological Society, on January 25th, was arranged as a "Symposium upon Typhoid Fever." Dr. A. C. Abbott spoke of the "Epidemiology." Reference was made to the fact that all teaching classed typhoid fever as peculiarly an autumnal disease. The average for many years shows this to be true, but special years show many deviations. The teaching, then, is incorrect for conspicuous typhoid centers. This statement is proven by reference to Philadelphia, which, as a typhoid center, is almost without competition. The sewer overflow in 1898 caused an epidemic in a certain district. This subsided and after a time a second occurred in the same district. This was thought to be due to some of the sewage being caught in the bend of the river near the pumping station, or to the old infection of the reservoir. That typhoid fever is especially an autumnal disease cannot be said where surface water is used.

Dr. J. H. Musser spoke of "The Value of Clinical Laboratory Methods in the Diagnosis of Typhoid Fever." The Widal test is the most important and has proved correct in more than 98 per cent. of his cases. He believes that if proper care in diluting the blood, etc., be exercised it is hardly possible to have a case of typhoid fever in which it will not be positive. This test is not only of value in the diagnosis of typhoid fever, but in determining the nature of processes following that disease, as infection of the biliary passages, the bladder, etc. As to the fact that it is rarely obtained before the fifth day of typhoid being against its practical value, it was stated that it is also seldom that the practitioner sees cases before the fifth day.

Dr. Simon Flexner spoke on the subject of "Typhoid Septicemia." Cases are met with which are easy to diagnosticate clinically, but which are very difficult of diagnosis at the autopsy. From these cases we must believe in the existence of typhoid fever without internal lesions. The demonstration of this depends (1) on the presence of a positive Widal reaction during the life of the patient, and (2) on obtaining the organism from the internal organs at the autopsy. To have a typhoid septicemia it is necessary for the organism to enter the blood and lymph currents. It so does in ordinary cases of the disease, but is soon filtered out by the various organs and hence it is not customary to find it in the blood except in transit. There is a class of cases, however, in which there are no lesions, or only atypical ones, and the bacillus is found throughout the body. These are cases of typhoid septicemia, or, as they should be called, typhoid bacteremias. Considerable observation has shown that this occurs. A number of such cases were found at Manila where, from the slightness of the lesions or their entire absence, the diagnosis upon the autopsy-table would have been extremely difficult. In all these cases the organisms were collected from the blood.

CHICAGO.

Dr. J. G. Huizinga has accepted the professorship of ophthalmology at the Post-Graduate Medical School.

Will of Dr. Hoadley.—The will of the late Dr. Albert E. Hoadley was filed for probate a day or two ago. The testator left an estate valued at $50,000. Of this $40,000 is personal property.

The Doctor's Magazine.—In a few days the first number of this publication will appear under the editorship of Dr. George F. Butler, formerly editor of the *Medical Standard*.

Chicago Surgical Society.—This Society was recently organized, with the following charter members: Drs. John E. Owens, J. B. Murphy, Arthur Dean Bevan, Weller Van Hook, M. L. Harris, A. H. Ferguson, L. L. McArthur, D. A.

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K. Steele, W. H. Allport, E. W. Andrews, Carl Beck, S. C. Plummer, Jacob Frank and Daniel N. Eisendrath.

Ocular Therapeutics for the General Practitioner.—At a meeting of the Chicago Medical Society, held January 24th, Dr. Albert B. Hale read a paper on this subject. New drugs from the chemists' laboratory are constantly being added to the physician's table, and some deserve to be retained both by specialists and general practitioners. Among drugs useful in ophthalmic therapeutics we have of the newer ones four that are particularly valuable.

Holocain.—This is a synthetic product, related to phenacetine, so that its name is merely imitative of cocaine, which in many cases it may supplant. Its salt, the hydrochloride, is soluble to about two and a half per cent. in cold water, and should be applied in a one-per-cent. aqueous solution. It has particular advantages for the general practitioner. In removing foreign bodies from the conjunctiva or cornea, for instance, it is better than cocaine, as it acts quicker, causes little pain, does not dilate the pupil, in temporary use effects corneal epithelium less, produces no ischemia, to be followed by hyperemia. It is somewhat antiseptic (enough to keep itself, at least), and can be sterilized by boiling with no disturbance of chemical composition. It must not be injected hypodermatically, nor be applied to other than ocular mucous membrane, as it is systemically poisonous. It must be prepared and kept in porcelain, not glass, as the alkali of the glass influences it.

Euphthalmin.—Of the three effects of local applications to the eye (omitting cautery or astringency), anesthesia, mydriasis, cycloplegia, many drugs produce all three, in varying proportions. Modern chemistry has supplied holocain for simple anesthesia. As yet, no drug produces simple cycloplegia alone. Mydriasis alone, however, can now be produced by euphthalmin, a complex synthetic product. It is best used in a five to ten-per-cent. watery solution. Here the author gives tables and cites authors to prove that cycloplegia is practically absent, and that it can be used in all cases at any age to produce a dilation of pupils for study of lens and fundus. Conclusions: (1) No subjective symptoms produced. (2) Only mydriasis caused, of short duration, beginning in thirty minutes. (3) Effects show earlier in youth than age. (4) Ocular tension not increased. (5) No hyperemia or ischemia of conjunctiva produced, corneal epithelium unaffected. (6) Accommodation practically unaffected . (7) Normal pupil soon restored. (8) Non-poisonous apparently.

Protargol.— This is better than any inorganic silver salt yet used. It is a proteid compound, containing about 8 per cent. of silver. Bactericidal power as great as silver nitrate; penetrates deeper; much less painful. not so dangerous to epithelium; can be used much more frequently; not so affected by light; its brown color an advantage for local application. Perhaps the silver nitrate is better for direct action on gonococcus, but for all other inflammations or irritations of ocular mucous membranes, protargol in a five- to ten-per-cent. watery solution is much better for the general practitioner.

Extract of Suprarenal Capsule.—Abel (Johns Hopkins) quoted with reference to epinephrin. Bates' experiments confirmed, showing that it is astringent more than hemostatic, acting through uninjured vessel wall. Useful for cosmetic purposes to blanch a red eye, to assist in prolonging anesthesia with cocaine or holocain, to aid other drugs in treating inflammations of conjunctiva. It is an unstable powder, spoils easily in the presence of water, must, therefore, be mixed fresh for use, as it has no well-defined solubility.

GENERAL.

Bubonic Plague.—Dr. Walter Wyman, Surgeon-General Marine Hospital Service, has just published from the Treasury Department a pamphlet on the plague, which will prove of general interest.

The Metric System.—It is hoped by scientists that the bill to secure the adoption of the metric system by the United States which has been introduced in Congress will pass. The bill provides for the use of this system after January 1, 1901, in all departments of the government except in the completion of the survey of public lands, and that after January 1, 1902, the metric system shall be the legal standard of the United States.

Sanatoria in the Riviera.—The British residents at Cannes have established there a sanatorium where officers invalided from the Transvaal will be received as free guests. Six villas have been hired and numbers of rooms taken at the hotels, and private residents have agreed to receive one or more invalids in each of their families, so that accommodations are now ready for four hundred wounded or sick officers at Cannes alone.

The Price of Carbolic Acid.—Owing to a report circulating in New York last week that the British Government had forbidden the export of carbolic acid, the price of that article was doubled. The reason assigned for this was that all the carbolic acid on hand, and all that could be manufactured for some time to come, would be needed for the manufacture of lyddite. Lyddite shells are used extensively in the war with the Boers.

Scruple is supposed by some, says the *Chemist and Druggist,* to be the diminutive of *scrupus,* a sharp stone, from which its meaning as "a scruple of conscience" would also be indicated; but it is more generally traced to *scripulum,* something written, which was exactly the meaning of the Greek small weight *gramma* (from which the French *gramme* was adopted), although it is not

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quite easy to see the connection between "something written" and a small weight.

The Influenza.—The "grippe" continues to rage not only in London, but also at various points on the continent. At Berlin during the first half of January the deaths from influenza numbered one hundred and seventeen. At Rome several thousand cases are reported, and at Rouen, in France, the troops garrisoned there and the general population are suffering severely; the public schools are closed. Such an epidemic in Europe as is now raging preceded the first invasion of this country. In all probability we may expect a similar experience now.

Famine in India.—Official estimates made at Calcutta place the number of persons now affected by the famine in British territory at 22,000,000, and in the native states 27,000,000. Lord Curzon, the Viceroy, says the famine area has expanded, surpassing the worst fears, and they are now facing a cattle, water, and food scarcity of a terrible character. Over 3,000,000 persons are now receiving relief. The Viceroy points out that India now will be obliged to struggle alone, as the thoughts of every Englishman in the world are centered on South Africa.

A City of Filth.—A correspondent of the *New York Tribune* writes from Peking, recent date, as follows: "The three chief characteristics of the Chinese capital which most impress the newly arrived visitor are dust, stench, and dogs. There has been no rain since June, and the hideous tracks that are dignified by the title of streets are ankle-deep in black dust, much of which is pulverized filth. Along the macadamized streets, of which there are three, are open drains. These serve as sewers from which the sewage is dipped and the highway sprinkled. When it dries the pulverizing is resumed, and, in addition to the original compound, the residuum of the tainted water is breathed into the lungs."

Death of Dr. Hall.—Dr. George D. Hall of Galveston, Texas, died at his home December 22, 1899. He was born at Newbern, N. C., March 25, 1824, graduated at the University of Pennsylvania in 1848; married in 1854, and was engaged in the practise of medicine at Gaston, Ala., till he entered the Confederate service as assistant surgeon in 1863. At the close of the war he moved to Courtney, Texas, where he was actively engaged in the practise of his profession till a few months before his death. He spent a long and useful life, honored, beloved and lamented by all his acquaintances. He left a widow and son, Dr. George P. Hall, professor of ophthalmology at the Texas State University. Dr. Hall was for fifty-one years, except for a time during the Civil War, a subscriber and reader of the MEDICAL NEWS.

Antivivisection.—Dr. W W. Keen, the president of the American Medical Association, desires it to be announced that some changes have been made in the Senate Committee on the District of Columbia. As members of the profession are requested to send personal letters to these Senators, a revised list of the committee is herewith given: Senator James McMillan, Michigan, Chairman; Senators J. H. Gallinger, New Hampshire; H. C. Hansborough, North Dakota; R. Redfield Proctor, Vermont; J. C. Pritchard, North Carolina; Lucien Baker, Kansas; Thomas S. Martin, Virginia; William M. Stewart, Nevada; Richard Kenney, Delaware; George L. Wellington, Maryland; S. R. Mallory, Florida; W. V. Sullivan, Mississippi, and W. A. Clark, Montana. Personal letters may be addressed to them or to other Senators. Petitions should be addressed to the Senate of the United States.

Sir William MacCormac, London's eminent surgeon, now at the front, writes in the *Lancet*, January 20th, that on the day of the Tugela battle 800 patients passed through the hospitals, all the wounded being cleared off the field within four hours of the end of the battle and despatched to the base within two days. This was largely due to the clean-cut wounds of the Mauser bullet, which are entirely free from contusion and laceration. Out of 309 wounds only eight were caused by shell-fire. The remainder were due to Mauser bullets This great disproportion bears out the dictum that the effect of shell-fire is mainly moral. The mortality among the wounded is less than five per cent. The period of convalescence is so short that seriously wounded men return to duty in from three to five weeks. The system of camp sanitation has practically barred out typhoid and dysentery. These are among the achievements to date of the medical service at the front.

Reduced Fares to Paris Congress.—The Secretary-General of the Congress gives notice of the following reduction in rates:

(1) All the railway companies of France will grant to the members of the Congress a reduction of 50 per cent. upon round trip tickets, as follows: Every member of the Congress will receive, upon application to the Secretary-General, Dr. A. Chauffard, 21, rue de l'Ecole de Médecine, Paris, a ticket which must be stamped at the railroad station where he enters France, upon paying the full price of a single trip to Paris. At Paris the member will have this ticket viséd in the office of the Congress, and it will then serve as a return ticket without additional expense. The journey to Paris having been paid entirely, and the return trip being free, there is, of course, a 50 per cent. reduction. It goes without saying that in order to secure this, the return trip must be to the same point at which the original fare was paid. (2) The French line (La Compagnie Générale Transatlantique) will allow members of the Congress a reduction of 10 per cent. on tickets from New York. (3) The Secretary-General has arranged to provide to early applicants a number of lodgings, including light and service, at the rate of five francs per day; and various agencies also advertise reduced rates for lodgings.

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For further particulars and application blanks for membership, address,

Dr. H. B. Jacobs,
Sec'y, American National Committee,
3 W. Franklin street, Baltimore, Md.

The Plague.—The latest news from Honolulu announces thirty-eight deaths from the plague. One victim was a white woman of good class. By order of the Board of Health of Honolulu ten city blocks have been destroyed by fire, this constitutes about one-half of Chinatown and 3400 Japanese are in quarantine at that port. They are emigrants brought out from Yokohama as contract laborers. The total statistics from Manila, January 22nd, show fourteen cases and eleven deaths. The *British Medical Journal*, January 20th, announces that during the last week in December at Oporto six cases of plague and two deaths occurred, and during the first week of 1900 three cases and one death. No cases are known at any other point in Portugal or Spain. In India the condition grows steadily worse. At Bombay during December the average mortality from the plague was 954 per week, nearly double the death-rate during December, 1898. Famine and its attendant diseases swell the death-rate in the Bombay Presidency. The mortality from general diseases, apart from plague, causes extreme anxiety. From New Caledonia, a French possession east of Australia, come alarming reports regarding the prevalence of plague there since early in December. There were sixteen deaths during the first ten days of the outbreak, and between December 25th and January 9th, eighteen cases occurred and ten deaths. Death from plague is reported to have occurred in the hospital at Adelaide, Australia. It has been suggested that the United States Department of Agriculture be authorized by Congress to establish serum stations at once on islands in the Pacific for the development of Pasteur antitoxin, in order that the government may be prepared to meet any invasion of the bubonic plague. It requires one year to bring the antitoxin to a state of perfection. Plague is reported epidemic in Rosario, Argentine Republic.

Medical Practise in the Philippines.—In a letter from Manila dated December 12, 1899, which appeared in the *Journal of the American Medical Association* last week, Surgeon Major Potter makes some interesting observations "There is no field here for American physicians, for several reasons. In the first place the fees are too small. I was called once to an American house where I had been attending the family, and found a native physician there, sent for in emergency by the servants. He withdrew as soon as I arrived, but I asked him what fee he expected. His reply was that the usual honorarium was *dos pesos*, equal to $1 in our money. He is a *mestizo* of good professional standing and education, a graduate of the University of Barcelona, Spain, in medicine, and yet he only expected $1, gold, for an emergency call to an American family. Among his own people he would probably expect an average of 50 cents, Mexican, equal to 25 cents in gold, for each visit. In the next place, the people who pay for their medical service are well-to-do *mestizos*, and they prefer their own race, who speak both Spanish and Tagalog and use remedies with which the people are familiar. There are plenty of such men here, who have been educated first at the local medical college, which is connected with the University of Manila, and have taken a supplementary degree in Spain. There are also several first-class English physicians here, who attend their own nationality as well as other foreigners, and have a considerable clientele among the wealthy natives. Several American physicians have tried to settle here during the last year; some after leaving the Army or Red Cross organization, others having come out specially for that purpose. With one or two exceptions they have failed to establish a practise and have gone home. Several of them told me that they could not do anything except to "fake it" among our soldiers, on venereal disease, and preferred to quit rather than do so."

Medical War-News.—It certainly speaks volumes for individual competency of the regular army surgeons, as well as for the initiative and emergency powers of adjustment and resource of the numerous civilian surgeons so hastily enrolled, that the one department of the present campaign which stands practically above criticism is the medical. The intelligence department seems to be in a state of abeyance or suspended animation, and the chief thing that the private soldier, in his home letters, hopes for from "Lord Bobs" is a better food-supply, but the corps of our professional brethren gets little but praise. Bloody battle-fields are absolutely cleared of wounded before sunset; men seriously wounded are returning to duty in two or three weeks' time; the mortality among the wounded has been kept down to 5 per cent., and dysentery and typhoid, although present in almost every town-camp occupied, have been kept successfully at bay. Yet the medical corps was notoriously undermanned, the latest reports now showing the roster to have been 500 names short of the proper quota. Study leave was proportionately hard to obtain, the social standing of the officers was anything but satisfactory, and some of the best men were leaving it in disgust.

"The luck of the British army," in Kipling's phrase, has stood by it, however, and the blast of war has suddenly galvanized this small but gallant body of men into almost superhuman activity, retired surgeon-majors and colonels even have volunteered by scores for active service again, and the War Office has been simply flooded by offers of civilian surgeons for service. With a liberality as wise as it is belated, the Government, having secured the services of patriotic leaders of modern surgery, Treves, Watson Cheyne, Stokes, MacCormac, has assigned them an adequate rank, salary and staff. And this

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somewhat incongruous triple combination is not merely "muddling through somehow," as Lord "Charlie" Beresford predicts of the army, but scoring a success. Of course there is plenty of small friction and jealousy, especially on the part of the army medical men who consider themselves superseded by these great "consulting" appointments, but, so strong is the devotion to duty and recognition of the gravity of the emergency in all ranks of the profession involved, that all are pulling together in harmony upon the main issues.

The report of the chairman of the English Red Cross organization makes, next to the records of the medical arm of the service, the pleasantest reading of the war news. The fitting up of the Princess of Wales' hospital-ship, of the Princess Christian's especial ambulance train, of the Sievewright convalescent homes, the distribution of newspapers and magazines among the troops, and the supply of fresh vegetables and fruits to the wounded in the various hospitals are all achievements of which the society may well be proud. The "Maine" and four field hospitals, the Duke of Portland, the Van Alen, the Langman, and the Lord Iveagh are also working under the society and affiliated with it.

In consequence of a suggestion recently made in the newspapers that trained cooks should be sent out with the hospitals and hospital ships, as well as trained nurses and surgeons, much interest is being taken in the results of the American experiments in training soldiers in invalid-cookery now being carried out in Washington Barracks. The idea is very favorably received in London, and it is not unlikely that our example will be shortly followed in some of the English regiments.

CORRESPONDENCE.

OUR LONDON LETTER.

[From Our Special Correspondent.]

LONDON, January 20, 1900.

CASTLES AND COUNTRY HOUSES FOR THE WOUNDED—UNAPPRECIATED PHILANTHROPY—VIOLATION OF THE CODE OF CIVILIZED WAR—INFLUENCE OF MATERNAL INEBRIETY—ECHOES OF PAGET—PATRIOTISM IN THE PROFESSION.

THE patriotic movement for the care of the soldiers invalided home from South Africa has now spread beyond the hospitals and sanatoria and reached private homes and mansions. The Duke of Norfolk and Lady Mary Howard have thrown open Arundel castle for this noble purpose and a score of country residences have been placed at the disposal of the War Office, among them those of Lady Wolsley (wife of the Commander-in-Chief), Lady Loder, Mrs. Hope, and the Countess of Carrington. At this rate of progress, if it be not actually "sweet to die for one's country" it will not be so desperately bitter to be wounded for it.

It scarcely appears, however, as if so very much of this nobly generous hospitality would be actually made use of, as the recovery-rate at the collecting and base hospitals is so high and rapid, that only a small percentage of the wounded and invalided have to be brought home at all. Upon these the effect of the long sea-voyage and the good nursing and feeding is so marked that upon arrival here a large percentage of them are almost well again, or at least declare themselves so, and anxious to return to the front. For instance, our old friend of the Cunard line, the "Aurania," arrived this week with 146 invalids from the Modder River, but of these only six were unable to walk or hobble on shore, although they had nearly all been carried on board at Cape Town.

The display of the universal brotherhood of humanity and things remedial and medical by the fitting out in England of an ambulance and corps for the Boer wounded seems to have been far from a success. Sir James Silverwright, an ex-cabinet minister of Cape Colony, who equipped the entire outfit at his own expense, offered at the same time his residence and estate, some thirty miles from Cape Town, as the site of a hospital colony for the English wounded. But instead of appreciating this impartial liberality, both belligerents resented it, and the ambulance was first declined by President Kruger, and then the estate by the Imperial authorities. Later, however, the estate was accepted for hospital purposes by the Red Cross Society, and the surgeons of the commission, although minus their ambulance, have been received at Pretoria and permitted to attend the wounded collected there, both Boer and captured British, making, we hear, no distinction between them, so that some good may come of Sir James' offers after all. The secret of the trouble appears to have been a report, probably quite unfounded, that the donor had let slip an expression to the effect that possibly the Boers might win, and hence was believed to be trying to "keep solid" with both sides at once.

Another violation of the code of civilized war is now being alleged on the part of the Boers. In addition to firing on the Geneva Cross, either upon ambulances or upon the uniform of the bearer corps, they are accused of throwing their dead into the rivers by night to conceal their losses. The effects upon the water-supply scarcely appear to have really occurred to their untutored minds, although there are not wanting allegations of sinister purpose in this regard, especially in view of the fact that the English camps are for the most part down-stream from the Boers.

In a paper based upon the study of 100 cases of female drunkenness read before the quarterly meeting of the Society for the Study of Inebriety this week, Dr. William C. Sullivan comes to the following conclusions: (1) That maternal

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inebriety produces a high rate of infant mortality. (2) That with the increase of maternal drunkenness came decrease of infant vitality. (3) That nervous abnormalities were unusually frequent in the surviving children. The first of these conclusions is almost axiomatic and its truth an unmixed blessing to the race as tending to eliminate rapidly and comparatively painlessly this type of organism. As to the other two, there is great difficulty in distinguishing accurately between cause and effect. How far inebriety itself is to be regarded as a symptom or evidence of inherited nervous unbalance is an open and much disputed question. Hence the nervous abnormalities in the children of inebriates may be simply manifestations in the second generation of the same strain of nerve-degeneracy which showed as inebriety in the preceding one, and not in any true sense caused by the alcohol consumed by the parents.

The columns of the press, both lay and medical, are still full of praise and regretful reminiscences of Sir James Paget. The hold which he had upon the admiration of all classes and the large niche which he filled in public esteem were simply phenomenal. His patient industry, his fund of knowledge, his splendid eloquence and his ready wit in speech and repartee are celebrated on all hands. A patient supplies an excellent illustration of his readiness in philosophic epigram. Standing one day at the bedside of one whose successful treatment depended in large measure upon the checking of long-continued alcoholic excesses, the poor wreck of a man begged piteously for some mitigation of his sentence to total abstinence, "You'll let me keep on with a few glasses of whisky and soda, doctor? It's so hard to break off old habits all at once." To which the paradoxical reply came instantly, "All habits are bad—even good ones." A dictum in point of philosophic insight and point worthy of Montaigne. Upon another occasion he is reported to have horrified his prohibitionist friends by declaring in the course of a discussion that "The worst subject for a critical surgical operation is a hard drinker—the next worst a total abstainer." Anent which it must be remembered that the total abstainer is the exception in England and is still, rather whimsically to transatlantic eyes, regarded as a man whose constitution or self-control will not permit him to stand the strain of even moderate indulgence in alcohol. We have actually heard a certain form of eye-strain characterized by a well-known ophthalmologist as "milk-drinker's asthenopia."

The degree to which the whole structure of English society is stirred by the present war crisis is well illustrated in the attitude of our own profession. Not merely have scores of our brethren volunteered their services to the various regiments in their professional capacity, but a strong movement toward volunteering as combatants is now on foot. Our distinguished half-brother in medicine, Dr. A. Conan Doyle, has already offered himself for enlistment in the Imperial Yeomanry, but being rejected as overweight, has taken service upon one of the ambulance-staffs. This week's medical journals published a formal appeal to medical students and the younger members of the profession, signed by Dr. Frederic Roberts, Mr. Edmund Owen and three prominent surgeons, representatives of the Militia, the Volunteers and the Yeomanry. This urges them to consider the duty incumbent upon them to respond to their country's needs by at least filling the gaps in the strength of these forces, made by the drafts upon them for active service at the front. This extraordinary appeal is only one of a hundred indications of the seriousness with which the situation is here regarded.

Not a few members of our profession have already gone to South Africa at their own expense on the chance of getting accepted for surgical service in some of the emergencies which are sure to arise in the field or at the hospitals during the war. Indeed, as already reported, the disappearance of the post-graduate student from the schools and hospitals continues to be one of the striking features of medical London.

TRANSACTIONS OF FOREIGN SOCIETIES.

French.

INTESTINAL INTOXICATION ARISING FROM FOOD-SUPPURATIVE PAROTIDITIS — SUTURE OF HEPATIC CYSTS WITHOUT DRAINAGE—MISLEADING RADIOGRAPHS OF OLD FRACTURES—INTESTINAL OBSTRUCTION BY A HUGE GALL-STONE—THE RECENT EPIDEMIC OF TYPHOID FEVER.

AT the Medical Society of the Hospitals, December 22d, Rendu described a case of intestinal intoxication which had recently come to his notice, in which the origin of the trouble seemed to be food, although the symptoms in some respects resembled those of typhoid fever, and in other respects those of malaria. A boy aged nineteen years, living in miserable surroundings and eating mostly spoiled food, was taken ill with headache, pain in the back, anorexia, coated tongue, fetid breath, vomiting, etc., but there was no diarrhea, nor iliac gurgling. There was, however, a sore throat and a scarlatinoform eruption limited to the distal portions of the extremities. This eruption disappeared in a couple of days and was not followed by desquamation. Usually in cases of food-poisoning there is a sudden rise of temperature to 104°, which lasts two or three days and then diminishes rapidly. In this patient the fever was of an intermittent type. In a period of fifteen days he had five or six febrile attacks, each preceded by a chill, and separated by intervals in which there was no fever. Rendu supposed at the time that possibly an old malaria had been stirred up by the gastro-intestinal trouble, but the patient denied ever having had malaria. Admitting that the fever was due to the food, it was

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still impossible to make out the exact nature of the poison. In support of the theory that the new attacks of fever were due to intestinal poison, it was stated that the contents of the intestine remained putrid for two weeks in spite of the repeated administration of purgatives and intestinal antiseptics.

Barth said that in his opinion the alimentary intoxication was the *primum movens* of the trouble, but that the succeeding febrile attacks were caused by infection, the influence of the poisonous food-products having exalted the virulence of microbes existing in the intestine.

Claisse recently had opportunity to observe two patients suffering from suppurative parotiditis, the bacillary agent being, as is usually the case, the yellow staphylococcus. It is well established that the infection proceeds from the mouth upward, the first lesion being a stomatitis, followed quickly by an intense gingivitis. Thence the infection travels along Steno's duct. Such inflammation of the buccal cavity is due to a diminution of salivary secretion on account of a special diet ordered the patient or from other cause. Under such conditions antisepsis of the mouth is impossible, and Claisse adopted the plan of increasing the secretion of saliva by injections of artificial serum. Under this treatment the buccal lesions were soon cured. Under circumstances in which suppurative parotiditis is to be feared, namely, in the presence of urinary difficulties, during recovery from severe typhoid fever, pneumonia, etc., the condition of the posterior molars should be carefully looked after, as deposits of tartar can irritate the orifice of Steno's duct. If, in spite of cleansing of the mouth, the gums remain inflamed and the mouth is dry, injections of artificial serum should be resorted to.

Menetrier treated a case of double suppurative parotiditis by expression of the pus along the duct, and the patient recovered without incision. The bacterial agent was the pneumococcus.

Widal mentioned a case of parotiditis after typhoid fever which recovered without incision, the bacterial agent being Eberth's bacillus.

At the Society of Surgery December 27th, Delbet discussed the treatment of echinococcus cysts of the liver, basing his remarks upon a report of four cases made by Jonnesco, who closes the cavity either with or without suture of its walls, but in every instance without drainage. The idea was previously held that the cavity left by the extraction of the cyst membrane must be filled with some fluid in order to prevent exudation of serum. Experience has shown that exudation does not take place. If the cysts are very small no treatment except excision is required. If large they may be closed by a superficial row of sutures, or, if the walls are not disposed to fall together, they may be sutured in layers. In no case should drainage be used. He agrees with Jonnesco that irrigation with strong antiseptic solutions is harmful, while that with weaker solutions is unnecessary. A simple wiping of the cavity with dry gauze is enough. Puncture of a cyst to be followed by injection of parasitic fluids, ought to be given up altogether. Jonnesco's four patients recovered promptly. Counting also four patients operated upon by Bobroff, four by Garre, one by Nelaton, one by Bougle and seven by himself, Delbet made up a total of twenty-one operations performed in the manner indicated without any injection.

Tuffier said that he had operated successfully upon a retrovesical cyst and one of the kidney, using no drainage and not suturing in layers. The patients recovered promptly and were well seven and eighteen months afterward.

Lucas Championniere spoke of the dangers of being misled by a radiograph of a callus after fracture, if the light was held in a wrong position when the radiograph was made. Even when manual examination shows the bone to be united in a good position a radiograph may make it look much deformed. In consequence some surgeons have denied the accuracy of these shadow pictures. There is danger also that they may be used to influence the mind of a jury in a suit for malpractise. The volume, dimensions and form of the shadow vary not only with the distance of the object from the plate, but from the light as well, so that two successive radiographs, unless the bone, the photographic plate, and the light are in exactly the same positions, will show two different deformities at the site of fracture. This variation in the size of objects is readily shown by taking a radiograph of a hand holding a needle and then taking a second one with the light at a greater distance. The needle in the former case may easily appear twice as long in comparison to the bones of the hand as it does in the latter. These facts should be borne in mind in forming an opinion from a radiograph as to the amount of deformity which follows a fracture.

Tuffier showed a smooth intestinal calculus about the size of an egg which had caused symptoms of intestinal obstruction, and which he had removed by laparotomy. The patient, curiously enough, had never suffered from bilious colic, although it seemed probable that the stone was formed in the gall-bladder and had passed thence into the intestine in the same condition as when found, as there were no signs of new stratification.

At the Society of Pediatrics Netter communicated some statistics relative to the recent epidemic of typhoid fever in Paris. He treated 188 patients of whom 6.65 per cent died. Hemorrhage was observed six times, erythema three times. The severe cases were characterized by cardiac complications by a small pulse and a tendency to collapse, and often by bronchitis and cerebrospinal symptoms. In these severe cases warm baths were employed, as with children they are better borne and give better results than cold baths. Among his patients were two nursing infants, both of whom died.

Marfan said that he had many times examined the blood of nursing infants with fever, but had failed to obtain a serum-reaction with typhoid

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bacilli. It is probable that typhoid in an infant may pass unnoticed. Even in older children the reaction appears late, if at all.

Mery was able to obtain a positive serum-reaction in the case of an infant eight months old. The mortality among 67 patients treated by him during the epidemic was 7.45 per cent. In severe cases he used cold baths and did not consider them ill-borne by children. The indications for the use of the cold bath in children are the same as for its use in adults.

Ausset said that he had examined the intestines of many children who had died from various diseases; but that he had never found the lesions of typhoid fever when the disease had not been recognized during life.

SOCIETY PROCEEDINGS.

MEDICAL SOCIETY OF THE STATE OF NEW YORK.

The Ninety-fourth Annual Meeting Held at Albany, January 30 and 31, and February 1, 1900.

FIRST DAY—JANUARY 30.

MORNING SESSION.

Inaugural Address.—Dr. Willis G. Macdonald of Albany formally opened the first session of the ninety-fourth annual meeting. He said:

"The general interests of the Society have not alone sustained but materially advanced during the year. The interests of higher medical education have been safeguarded. The number of scientific contributions voluntarily presented to the program show no lack of healthy professional spirit. There have been presented few evidences of professional discord. Larger problems in sanitation in the State care of infectious diseases are now confronting us and the people will undoubtedly act upon our conclusions.

Sects in Medicine.—The recent development of several sects in medicine, the underlying principles of which have no bases in fact, presents a serious menace to public health which from the peculiarity of the methods employed by these sects, makes it very difficult and, under the present law, absolutely impossible to control. To state it more briefly, the doctor of Christian science and of osteopathy and the trance medium can all avoid the consequences of the medical practitioner's act. This condition arises from the insufficiency of the legal definition of the term "practise of medicine." A number of gentlemen of large experience, both medical and legal, have undertaken to so define the term "practise of medicine" that all these species of quackery may be controlled by our present medical practise act. To this end I commend the hearty support of this Society or its co-operation with the New York Academy of Medicine.

Medical Expert Witnesses.—There are a few propositions concerning this matter which present themselves to my mind: The medical expert witness is neither better nor worse than any other expert witness, and the difference of opinion among electrical, mechanical, chemical and even legal experts are just as great as among medical. The essence of the whole thing is bias. When a medical expert prepares for an attorney the medical side of a case and prompts him in the examination of opposing witnesses, he is no longer a witness and should not be sworn. He is an advocate at the bar with all the bias that that implies. The legal profession is responsible for the present order of things. When they start out to obtain expert medical testimony they frequently and very naturally look for the witness who is going to be of the most assistance to them, both as a witness and in the preparation of their side of the case. Presiding judges can readily remedy this by excluding from the witness box the medical advocates. I am of the opinion that a voluntary society of men doing expert work could do much to regulate the condition.

State Control of Tuberculosis.—The question of State control or care of persons suffering from chronic infectious diseases is receiving world-wide attention. The regulation of tenement houses, and of food supplies are important topics for consideration. The United Charity Organizations of New York, if I am correctly informed, have come to the conclusion that State care is the solution of the tuberculosis problem. There are other ways of approaching the proposition of the control of tuberculosis than through the organization of State sanatoria. The State devoted, by appropriation, to the State care of the insane during the year 1899 over five million dollars. What additional appropriations may very naturally be required for the support of the tubercular, the syphilitic, the venereal, and, eventually, the cancerous? Such a series of conditions would soon evolve a condition of philanthropic communism. We must be guarded in our advocacy of these measures. The suggestion is made that the seal of approval of this Society shall not be placed on suggested legislation until the most careful consideration.

Affiliations.—The events leading to the schism now existing between the American Medical Association and the Medical Society of the State of New York are too well understood to require any repetition in this body, nor would any reference to it be made but for the unofficial discussion by individual members of each society of a plan for reapproachment. The principles for which each faction in the New York State Medical Society has striven so strenuously and honestly for twenty years have under the influence of medical progress become practically identical. There lingers yet but the memories of thrusts received in heated if not acrimonious debate, and of wrongs perpetrated in defense of false notions. Personally, after a critical investigation I can find no difference in the ethical behavior of members of the American Medical

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Association and that of members of the Medical Society of the State of New York. In fact, some very worthy and distinguished physicians are members of both and reflect equal credit upon each society. It has occurred to many of us that honesty and good manners are not matters for legislation or codes, but rather the results of home training and education, and that physicians are well bred and honest because of education rather than codes. The present medical law of the State of New York has done more to remove sects in medicine and improve the ethical and scientific standing of physicians than all the codes since Hyppocrates. It is this law, possibly somewhat modified, with some additional safeguards, that is the code of ethics of the Medical Society of the State of New York, and practically unifies the profession in this State. If the present requirements for the degree of doctor of medicine in New York State will not guarantee the ethical behavior of the candidate, no code will. His State certificate is his authority and you can decline to receive, resolve and expel until red in the face, yet sit with the same man on an official board of health the next day.

The cases are isolated indeed where the code of the American Medical Association has been invoked to discipline a member. Its most frequent use has been its employment to keep members of this Society from participating in the meetings of the American Medical Association. Recently this policy of conciliation has led to the acceptance of members of the Medical Society of the State of New York as members of the American Medical Association without asking any questions or having the gentleman recommended by another. The practise seems to me not only questionable but undignified. The differences which led to the disruption have disappeared. There is nothing but the echoes of strife and a few personal ambitions. A solution of the problem might be simple. Let the American Medical Association invite the Medical Society of the State of New York to send delegates whose credentials will be received and they be admitted through the same door that closed in the faces of that distinguished delegation of New York physicians at St. Louis. Let them come in the front door of the convention with equal rights with all, in this way, I believe, can our differences be settled with dignity, and the Association made what it is not now, the representative of the united medical profession of the United States.

Vivisection in the District of Columbia.—There are two subects of great importance to the medical profession now subjects of legislation before Congress. The first is a bill purporting to regulate vivisection in the District of Columbia, but which is in reality a measure designed to annoy, hamper and nullify every effort made for the advancement of medical science through humane animal experimentation. It is only in the rarest instances that cruelty has been inflicted. It is certainly not necessary to detain this Society by any detailed statement of the manifold benefits which so continuously flow from animal inoculation and experimentation in the field of original research.

Medical Corps of the Army.—The other subject is of equal interest to us and involves the reorganization and increase of the medical corps of the army. Skeleton formation is a favorable plan in other departments of the army, why does it not apply in the medical corps? There can be no doubt that the Surgeon-General has been very modest in his demands for increase in the personnel of the medical corps. If army medicine and surgery are going to be held responsible for all the ills of the camp and field, it should have at least an adequate corps. Our duty is plain, we should at once go to the assistance of the medical corps and make Congress feel the necessity of prompt and favorable action.

Executive Business.—Dr. A. Vander Veer, of Albany introduced a resolution that this Society request our Senators and our Representatives in Congress to give hearty endorsement to the law, now pending, regulating the increase of the medical corps of the army; it was carried.

A question as to the eligibility to membership to the State Society of the West End Medical Association of New York excited much discussion. A subcommittee reported favorably upon the eligibility of a delegate from that Association without any endorsement from the Society as a whole.

Gastric Carcinoma and Hydrochloric Acid.—Dr. A. MacFarlane of Albany read this paper. He said that symptoms of carcinoma of the pylorus are very different from those involving other parts of the stomach, the signs of a diffuse growth differing from those of a localized tumor, the evidence of an ulcerating tumor differs from that of one which has not ulcerated, the symptoms of a primary growth differing from those where the tumor has subsequently developed. The significance, then, of the presence or absence of retention, hydrochloric acid, lactic acid, blood, pus, sarcinæ, yeast, should not be applied indiscriminately to all cancerous conditions, but to selected cases in which the agent is present.

He wished to call attention to a series of sixteen cases in which what is ordinarily considered the most characteristic symptom of carcinoma—absence of hydrochloric acid—was not present. Some claim that absence of hydrochloric acid is pathognomic of cancer; it certainly is of the highest diagnostic significance. Hollman, Biach, Eisenlohr, Tapret, Piqual, Koch and Bruvert have reported cases showing that the presence of hydrochloric acid is not necessarily inconsistent with the diagnosis of cancer. Of these sixteen cases reported, in twelve of which the diagnosis was confirmed by operation or post-mortem examination, six had histories highly suggestive of a preceding ulcer. Hydrochloric acid was continuously present in thirteen, and for a time found in the other three, where it was later replaced by lactic acid. The pylorus was involved in seven

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cases, the pylorus and lesser curvature alone in one, and the growth was diffuse in one case. Lactic acid was present late in four patients, in three replacing the hydrochloric acid and in one associated with it. All suffered greatly from vomiting retention, determined by the presence of sarcinæ or food, was well marked, emaciations and loss of strength were striking in every case and the appetite was poor in most cases. The duration of the gastric symptoms in nine cases was less than a year, in seven more than a number of years. In seven cases the pain was the prominent symptom, while distress and burning were mentioned in three. Of the sixteen cases, eleven occurred in the male and five in the female, the ages varying from thirty to seventy-two years.

The object of the paper was not to add to the difficulties of diagnosis, but to impress the importance of the possibility in a considerable number of cases of the absence of the most characteristic symptom of carcinoma and the necessity of judging each case by itself.

Age, Sex and Season in Nervous Disorders.—Dr. William C. Krauss of Buffalo showed the importance of age in the history of development of nervous disease. He divided the period of life into six epochs, showing those diseases which have a predilection for each epoch. The period of adolescence is one of active growth and gives rise to certain functional disorders, such as chorea. During the epoch of manhood there is impairment of bodily functions and degenerations, which result in organic diseases.

Strabismus.—Dr. D. B. St. John Roosa of New York read this paper. At the last meeting of the Society he reported a new operation for this condition. Confidence in that operation was based on the fact that Panas operated 210 times before he reported on the subject. He now reports results of 6 operations, since increased to 24, and by his colleagues, Dr. Davis and the house surgeon at the Manhattan Eye and Ear Hospital, to 48. Of these only two cases still require operation. The operation consists essentially in stretching both muscles to be divided before dividing them. The other feature of the operation consists in doing it at one sitting. The case should not be an ambulatory one if success is to be attained.

Non-operative Treatment of Strabismus.—Dr. A. E. Davis of New York read a paper on this subject, as follows:

(1) Hypermetropia and hypermetropic astigmatism are the causes of convergent strabismus in the great majority of cases.

(2) As contributory causes may be mentioned, (a) difference in acuteness of vision, either congenital or acquired, but usually acquired and due to an unequal state of refraction in the two eyes; (b) anything that interferes with the acuteness of vision, as opacities on the cornea, in the vitreous or lens.

(3) Faulty structure, insertion or innervation of the extrinsic muscles of the eye may cause convergent strabismus; and paresis of the ciliary muscles has been given by some observers (Javal).

(4) The amblyopia present in most cases of convergent strabismus is functional and acquired, and not congenital except in rare cases. The few examples of positive evidence on this point, that is, where cases have improved greatly in vision when the squinting eye was straightened, together with the cases where the amblyopia has been observed to develop after the strabismus begins, as in the case furnished by Roosa, and published for the first time in this paper, are of much more value than all of the negative evidence in favor of the theory of congenital amblyopia.

(5) The non-operative treatment of strabismus, tropine, the exclusion pad, and in patients old enough, glasses, the stereoscope and bar-reading, should be begun as soon as the squinting is observed; for it is in the early cases that this form of treatment is capable of doing so much good. By means of it, if the case is taken in time, false fixation and suppression of the image in the squinting eye is prevented, fusion of the images in the two eyes encouraged, and form-perception, that is, true binocular single vision often maintained. Even where one or more of these functions have been lost persistent effort in the non-operative methods of treatment frequently restores them.

(6) Just as soon as the non-operative method of treatment ceases to improve the condition of the squint it is time to operate. Delay in operating after this is not only useless but harmful, because the habit of suppressing the image in the squinting eye becomes fixed and the amblyopia worse.

(7) After the eyes have been operated on, the use of the stereoscope, bar-reading, the pad, glasses and so forth, are of the utmost use in completing the cure, maintaining parallelism and establishing single binocular vision.

(8) The "rational" treatment of strabismus is early treatment, and in every case the child should be thoroughly examined soon after the strabismus begins. This principle should be urged upon the whole profession in order that it may reach the public.

Ocular Affections in Family Practise.—Dr. Frank Van Fleet of New York read this paper. To his mind there are four kinds of conjunctivitis: Simple, which requires very little treatment; gonorrheal; trachomatous, and traumatic. All forms are purulent and contagious, excepting possibly the traumatic form. The treatment depends on the severity and the cause producing it. Mild attacks require only a soothing collyrium; severe attacks require an application of nitrate of silver, and, possibly, ice-cloths. The use of a mild solution of nitrate of silver, five grains to the ounce, in mild attacks, is best. It is applied with a cotton-wrapped applicator. To gonorrheal cases the stronger solutions, from twenty to forty grains to the ounce are advisable; if applied early enough they may not need repeating; application of ice-cloths should follow. Trachoma and follicular conjunctivitis, when acute, respond

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promptly to the application of nitrate of silver. After the acute stage, apply sulphate of copper. Any one of the three remedies, nitrate of silver, alum, or sulphate of copper, will produce good results in the treatment of conjunctival inflammations if used for a limited time; if used too long they may aggravate the trouble. In acute cases, use the silver; in the subacute and chronic cases, use all three alternately. Conjunctivitis may be mistaken for other conditions, the most common being keratitis, iritis, scleritis and glaucoma. In conjunctivitis the striking characteristic is the discharge of pus, more or less profuse. In keratitis there is an increased flow of the lachrymal secretion. In conjunctivitis there is swelling and redness; not so in keratitis. In keratitis there is loss in the brilliancy of the cornea; not so in an uncomplicated case of conjunctivitis. In the majority of cases of keratitis there will be an opacity of the cornea. In conjunctivitis there will be an injection of the conjunctival vessels; in keratitis there will be few or none, although what is known as circumcorneal injection, which is never found in uncomplicated conjunctivitis, may be observed.

Iritis and glaucoma should be differentiated from keratitis. In keratitis there is generally an abrasion or ulceration of the cornea. In keratitis the pupil is contracted; in glaucoma it is dilated. In keratitis the cornea is sensitive to the touch; not so in glaucoma. The irritation due to keratitis will entirely disappear for a time under the use of cocaine; in iritis it has little or no effect. If cocaine dilates the pupil in iritis it will cause an irregular outline. Pain is generally more pronounced in iritis and glaucoma than in keratitis. In glaucoma there is increased tension of the eye.

The pain of conjunctivitis is relieved, as a rule, by the application of iced compresses; in keratitis and iritis hot applications are preferred. In uncomplicated conjunctivitis atropine is never indicated; in keratitis and iritis, always; while in glaucoma it produces the most disastrous results. Episcleritis and scleritis are often met with in private practise as frequent accompaniments of rheumatism and gout. The treatment consists in the application of hot water and atropine. Internally large doses of salicylate of soda, free catharsis, and alkaline waters. Colchicum is often of value.

Under-Graduate and Post-Graduate Instruction in Therapeutics.—Dr. Eli H. Long of Buffalo read a very practical paper on the teaching of therapeutics to under-graduates and with reference to post-graduate instruction. Dr. Reynold W. Wilcox of New York thought that less attention should be paid to theoretical and more to the practical side of instruction.

AFTERNOON SESSION—TUESDAY.

Earache in Children.—Dr. T. H. Halsted of Syracuse read this paper. It will appear in the MEDICAL NEWS.

Weil's Disease.—Dr. Harlow Brooks of New York read this paper. Weil thinks this disease to be an infectious toxemia. It is almost always found in consumers of putrid or spoiled animal flesh, and is quite frequently seen in butchers. The lesion of the disease results in swelling, congestion with blood extravasation, parenchymatous nephritis, and degeneration of the liver. A great similarity exists between fatal cases of Weil's disease and acute yellow atrophy of the liver. Weil's disease, yellow fever, acute yellow atrophy of the liver and results of phosphorus poisoning present similar pathological changes.

Fever and Heart Failure.—Dr. A. Jacobi of New York read a paper on the treatment of temperature and heart failure. He does not believe that any degree of temperature or any Greek name of a disease should be treated in place of the patient.

Croupous Pneumonia: Pathogenesis and Treatment.—Dr. James K. Crook of New York said that we know that the cocci are present in the majority of the cases of this disease, and, further, that if we inject a pure culture into animals, it gives rise to hepatization of the lungs. They are not invariably present in pneumonia, nor do they invariably cause pneumonia, nor do they fulfil all the laws that the pathogenic organisms do, as in the case of the bacillus anthrax, Koch's bacillus, or the spirillum of relapsing fever. Pye-Smith, in an article in Albutt's "System of Medicine," requires that the microbes should be specific, and the cultures identified beyond dispute. The morphology of the diplococcus of Fräenkel is admitted to be illusory; it is arbitrarily described as a micrococcus, a diplococcus, or a streptococcus. It is also described as being oval, or lancet-shaped, or as a bacillus; as sometimes encapsulated, and sometimes not. It must be confessed that we can not pin our faith in Fräenkel's microbe as a cause of acute lobar pneumonia, nor as a basis for therapeutic measures. Two French writers have shown the presence of the pneumococcus in the secretions from the tonsils in every one of forty persons. While it is possible to reach the lungs through the blood-vessels or the lymphatics, it may be shown that the bacillus also gains an entrance through the bronchial tubes. There is no doubt that a depressed vitality increases the receptivity of the soil. Dr. Andrew H. Smith[1] claims that pneumonia is not an inflammation by a process of germ culture. That opinion is at variance with those of other writers on the subject.

It has been discovered that the serum from the blood of animals affected with pneumonia gives temporary immunity when injected into healthy animals. The hope is that the future treatment rests in the discovery of a practical antitoxin. Many believe that an antitoxin can be introduced into the stomach of a patient and so into the body in such a way as to render the blood an unfit medium for the pneumococcus. We should not be in too great a hurry to attempt to jugulate a disease by the use of antiseptics until the re-

[1] MEDICAL NEWS, December 16, 1899.

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sults of the antiseptics are better known, and whether they can be introduced in sufficient strength to destroy the pneumococcus without destroying the patient.

Dr. Andrew H. Smith of New York, in discussion, referred to the double circulation existing in the lungs, one being in common with the circulation of all other organs in the body which sustains the structural conditions; the other circulation being functional. It is possible to have a disease which affects one circulation and not the other. If the liver is compressed by an exudate the functional circulation is absolutely suppressed; yet in the lung the structural integrity is maintained and it may later expand. In no other organ in the body is such a thing possible. In pneumonia and diphtheria the specific germ acts locally and gives rise to an antitoxin, which is absorbed into the symtem and disseminated everywhere throughout the body, producing serious symptoms. They are equally interesting in regard to other dissimilarity; in diphtheria the microbe works in the tissues; in pneumonia the microbe acts upon the exudate, which is essentially outside the body and not a part of the structure of the lungs. The microbe and toxin are directed upon the tissue just as truly as if they were corrosive poisons.

Classification of Infectious Diseases.—Dr. William H. Thomson of New York believes in the adoption of a definite nomenclature descriptive of classes of infectious diseases, as follows:

(1) All diseases due to the presence of specific living micro-organisms are infectious; therefore, owing to the nature, all infectious diseases are inoculable from the sick to the well; according to the means of communication he classified them under three headings, *viz.*: (*a*) Contagious; (*b*) non-contagious; (*c*) inoculable. The contagious communicable diseases are transfered by simple proximity; this is sufficient to communicate the infection to those who are susceptible; among these diseases are typhus fever, typhoid fever, smallpox, measles, mumps, whooping-cough, etc. The practical deduction is that these should be isolated to prevent infection.

(2) Non-contagious communicable diseases are those in which the communication is not by simple proximity to the sick, but by other intermediate means. Isolation is not needed nor is it effective. Examples are Asiatic cholera, tuberculosis, etc.

(3) Inoculable diseases are those in which the infection gains an entrance through a wound or damage to the skin or mucous membrane, such as surgical infection of wounds, hydrophobia, tetanus, and in addition, malarial infection as proven experimentally from the bite of the mosquito.

Prophylaxis in Gynecology.—Various papers were presented in this discussion, for which see pages 164 to 167 in this issue of the MEDICAL NEWS.

Dr. M. D. Mann of Buffalo referred to the imperfect development and hygiene of school-girls, especially at the time of puberty. There is too much pushing of young minds deveolped at the expense of the body. Young girls, at time of menstruation, should be removed from schools and kept quiet. In older people such care need not be given at the menstrual period. Regarding abortion there are three kinds of infection: (1) Infection from saprophites or a sapremia, usually recoverable. (2) Staphylococcic and streptococcic infection, usually of severe nature and often fatal. (3) Gonococcic infection, which comes on, not from neglect, but because it existed previously in the cervical canal and makes its way up to the tubes and ovaries

EVENING SESSION—TUESDAY.

Discussion—State Care of Tuberculosis Patients.

Dr. Edward O. Otis of Boston, Mass., opened the discussion. One-seventh of all deaths are the result of tuberculosis. It is the most prevalent of all diseases. It is curable in the early stages. The helpless cases among the poor have no care and so must go to almshouses. The situation should arouse the public to action. He advises that the crusade against consumption be made a popular one. He favors two kinds of public institutions, *viz.*: (1) Consumptive hospitals in or near the cities, regulated by municipal control. (2) Several state sanatoria favorably situated for the climatic and open-air treatment and not too far distant from the city. The cost is not much over $400 *per capita* per year. Efforts at treatment among the poor in their homes are almost impossible. He referred to the progress made abroad in establishing sanatoria, and trusted that this country would soon do likewise and not be so apathetic.

State Care in Massachusetts.—Dr. Vincent Y. Bowdich of Boston, Mass., read this paper. The number of cases in the hospital previous to October 1, 1899, 212; readmitted, 2; total, 214. The number discharged, 126; still under treatment, 88. In 35 the disease was arrested; 37 were much improved; 17 moderately improved; 24 not improved; 1 had bronchitis and 1 died, the latter having tuberculosis of the bladder. The point of great interest pertains to the arrested cases. He uses the term *arrested* and not *cured,* because he does not consider it should be applied until the patients have been under observation two years.

Infectious Character of Tuberculosis.—Dr. George Blumer of Albany continued the discussion. In tuberculosis developing in later life, evidence shows that the bacillus may enter in several ways, of which the two most important are the respiratory and alimentary tracts, rarely the genito-urinary tract or through the skin. The alimentary tract is affected more commonly in children than in adults. The rarity of primary intestinal tuberculosis is shown in 1000 autopsies reported with only 1 case. Northrup of New York in 125 necropsies found but 3 with uncom-

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plicated tuberculosis of the mesentery glands. Infection through the genito-urinary tract is extremely rare, and then is probably of blood origin. The prognosis studied from a pathological standpoint shows that no chronic disease shows a greater tendency to heal.

Legislation Concerning Tuberculosis.—The Hon. Horace White of Syracuse said that two years ago a committee was appointed to introduce a bill showing the wisdom of making an appropriation for the establishment of a hospital for the victims of pulmonary consumption. Last winter a bill was introduced for the establishment of such a hospital. It failed. This winter again was presented another measure of the same character. He believes that the future will bring the desired results. What has been accomplished elsewhere can be accomplished here. The only adverse argument advanced seems to be the expense to the State. He believes the relief is sure to come.

Spread of Tuberculosis.—Dr. Enoch V. Stoddard of Rochester discussed the sanitary and economic standpoints. One of the commonest causes of poverty is the prevalence of disease by which families are deprived of the helping hand. It is not well known, but the State of New York, in both private and benevolent institutions, aids one in 251 of population. The cure of tuberculosis in home sanatoria is less frequent than when patients are in distant localities and distant climates. He advised the enforcement of a policy by the Legislature regarding the prevention of tuberculosis, which should be as adequate as that which controls smallpox or other contagion.

Increased Taxation Necessary.—Hon. Otto Kelsey of Geneseo said the State is not prepared to assume this tremendous burden. It costs about $550 *per capita* to build buildings for housing the dependent classes. The charges of State Government are about $23,000,000, causing a tax of 2½ mills on the dollar, which, added to the municipal and local tax, makes a burden. Of this amount $5,000,000 is for the insane; $4,000,000 for schools; $2,000,000 for the canals; $11,500,000 for prisons and other necessary appropriations. The sum of $300,000 is now being used for new buildings for the insane. The practical question to be submitted in face of the enormous expenditure is: Is it proper or safe to venture upon another great expenditure so indefinite that the extent to which it may go cannot be estimated.

Dr. John H. Pryor of Buffalo stated that tuberculosis caused 12,979 deaths last year against 13,414 this year, and increased nearly 500 this year. In Greater New York there were over 300 more deaths this year than last. He believes in isolation-hospitals near large cities, and that there should be State prevention. We can be compared with Turkey in Europe and compared with no other country in Europe. Even Spain is establishing hospitals for consumptives. The Empire State cannot afford to be surpassed in this by European countries and her sister States.

WEDNESDAY, JANUARY 31ST.

MORNING SESSION.

The first part of the morning was devoted to a Clinical Session given at the new Albany Hospital. Special trolley cars were run to within a few blocks of the hospital; the doctors were then transferred to 'bus and sleigh, and carried to the hospital door. The clinic was under the control of Dr. Vander Veer. The courtesies of the hospital had been extended to members of the Society desiring to bring patients, and such patients were cared for, free of charge, during their sojourn in Albany.

Drs. Vander Veer and MacDonald showed many interesting cases, chiefly surgical, and Dr. W. K. Otis of New York read a paper on "The Modern Urethroscope; Its Value and Limitations," showing his latest invention in this field. At the termination of the clinic the members of the Society were carried back to the City Hall, where the regular program was resumed.

Anthrax.—Dr. Frank W. Ross of Elmira, in reading this paper, said: The lesions are typical and can hardly be mistaken for anything else. The wonderful results of immunizing serum used in animals should justify its use in man. Excisions of the infected part and the application of the antiseptic, both locally and by injection, justify their prompt and persistent use in all cases.

Bovin's Tuberculosis.—James Law, M.D., of Ithaca said that some of the medical profession and the lay skeptics denied the possibility of the transference of the disease from ox to man and from man to ox. Cultures of tubercular bacilli from man to the rabbit and cultivated then in bouillon become more destructive to guinea-pigs. In the tuberculin test for tuberculosis in herds, the majority of animals show only a localized tuberculosis. There are countries where tuberculosis is prevalent in man and not in animals. There is an increase of bovine tuberculosis in New York State because cattle are admitted without examination; Canada, Massachusetts, New Jersey, Pennsylvania, Illinois and Kansas will not admit the milch cow without tuberculin test being used.

Tuberculin Tests.—Dr. V. A. Moore of Ithaca stated that the tuberculin of to-day is a concentrated liquid usually in glycerinated bouillon, in which the tubercle bacillus grows until it can grow no longer. The practical application is very important; the tuberculin reaction consists in the temporary rise of temperature on the part of the tuberculous animal; it produces absolutely no effect upon healthy animals.

Dr. James K. Crook of New York referred to cases occurring in hospital, where it was important to know if those were true cases of tuberculosis. In three tuberculosis was diagnosticated clinically and in three it was suspected. In none was there any reaction from the injection of tuberculin except one which turned out to be tuberculosis. Three doses of tuberculin were administered, beginning with 1 milligram.

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The Medical Examiner.—Dr. S. Oakley Van derpoel of New York read this paper. All life insurance companies formerly were obliged to decline from 12 to 15 per cent. of applicants on account of impairment of family record or physical disability. Recently one company studied all its declined applications between the years 1875 and 1890 and learned the condition of health if alive and the cause of death if dead. From the data received the company was able to differentiate and collect groups of cases suffering from the same disorders; now, practically all of the 15 per cent. formerly declined are accepted on a substandard basis, provided they are not actually ill or there is no moral hazard. His conclusions were: (1) The company now insures underaverage, as well as selected lives; it offers insurance to practically all who apply. (2) In each case it adjusts the plan of insurance to the insurance value of the risk. (3) The medical examiner's report serves as a basis of valuation, and determines the plan upon which the insurance is offered.

The Angiotribe.—Dr. J. Riddle Goffe of New York related his experience with this instrument, and reported sixteen cases in which he had used it successfully. The advantages are: (1) It secures absolutely against hemorrhage. (2) It shortens the operation of vaginal hysterectomy ten to fifteen minutes. (3) It seals the severed ends of the broad ligaments, thus preventing absorption of septic material. (4) As the work proceeds more and more room is gained for manipulation in the pelvis. (5) It is easily applied in cases in which the uterus cannot be drawn down.

Dr. Stone of Washington said the use of the instrument enables one to remove the uterus and close up the vaginal wound entirely without fear of hemorrhage or of suppuration. The two points of advantage referred to were: (1) It shortens the operation, and (2) avoids the use of silk ligature in the pelvis or abdomen.

Acute Otitis Media.—Dr. Edward B. Dench of New York said that severe pain in the ear is due to inflammation of the external auditory canal or tympanic cavity. If one looks in the ear of a child and finds nothing, the teeth should then be examined for carious conditions. Earache in children usually means inflammation of the middle ear; in adults it may mean inflammation of the external auditory canal or tympanic cavity. A high temperature, unaccounted for, almost invariably is due to inflammatory conditions within the tympanum. An absence of luster of the drum membrane means an inflammation just as redness does. If the drum membrane is to be incised, make a free incision. Cut and cut deeply every time. Do not use drops, in the ear, of sweet oil and laudanum; this should be a state's-prison offense. Dry heat, hot-water bags or some other form of dry heat should be employed. Never use poulticing or syringing of the ear, except in the presence of pus.

Dr. James F. McKernon of New York believed in the instillation of an eleven per cent. solution of camphor at the temperature of the body, in pain in the ear.

Uterine Fibroids.—Dr. W. F. Ford of Utica read this paper. It will appear later in the MEDICAL NEWS.

The Anniversary Address was delivered by the President. (See page 193 of this issue.)

WEDNESDAY—AFTERNOON SESSION.

The following subjects were discussed at the opening of the session: Dr. Samuel G. Grant of New York demonstrated several instruments for use in rectal examinations and operations. "A Unique Case in Obstetrics," was read by Dr. F. H. Parker of Auburn. "Further Investigations into the Cause of Cancer," was read by Dr. Roswell Park of Buffalo. The two latter papers will appear later in our columns.

Curability of Leprosy.—Dr. George Henry Fox of New York said it was possible for leprosy to be cured. It is a disease like syphilis tending to run a slow and definite course; when the virulence is spent, the patient is free from the disease, if the strength is sufficient to stand a prolonged attack. Emphasis was laid upon the hopeful condition of the mind. Chalmoogra oil is of great benefit in all cases. In a case of macular leprosy he had been able to administer 100 drops of this oil; when the stomach rebelled, nux vomica was given and the patient greatly improved. The oil is of benefit in the tubercular form as well. Change of climate is a potent factor in the treatment.

The Care of the Hair.—Dr. George Thomas Jackson of New York read this paper, which will appear later in our columns.

Dr. Robert C. Myles of New York read a paper entitled "Some Remarks on the Surgery of the Nasal Septum," and presented some anatomical specimens, showing certain deformities, and described the methods used for the correction of the same.

Dr. Orlando B. Douglass of New York said that the value of the surgical treatment of nasal obstruction, which causes more than nine-tenths of all the catarrhal troubles, can hardly be overestimated.

Dr. John O. Roe of Rochester referred to the fact that nasal obstruction is the most potent cause of nasal catarrh, and operation should be instituted for its cure.

Hip-joint Disease.—Dr. A. M. Phelps of New York showed a boy with hip disease to whom he had applied the so-called "lateral traction-fixation" splint. The brace should extend above and below the joint. In hospital the use of the brace is followed by less than 16 per cent. of abscesses. Different varieties of braces were demonstrated.

Education and the Medical Profession.—A. V. V. Raymond, D.D., LL.D., President of Union University, delivered this address. Education stands for liberal culture; the profession of medicine stands for technical knowledge, skill and a means of livelihood. Is the aim of education to

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give man ability for his special calling? No. Man's occupation is not the end but the means to the end. The principle involved is that true education comprehends the development of all capacities and powers belonging to man, bringing him into correspondence with all the world. He is educated because he is a man. A longer period of preparatory training is needed for medical students than any other profession; it required the best men and the best methods.

Rational Therapeutics vs. Christian Science.—James M. Bulkley, D.D., LL.D., of New York, editor of the *Christian Advocate,* delivered this address. With more knowledge it is said freaks could be accounted for. Health is a condition of ease in existence, sickness is a disease, local, general, functional or organic. The causes of disease, scientifically considered, are accident, overwork, internal poison, germs, and the operation of destructive forces from without. Old age is recognized as normal. Superstition is the attempt to account for natural effects by supernatural causes, or diseased or modified natural results by supernatural means. Whenever a point is made against a lecturer or advocate of Christian Science this person holds he is not responsible for any view offered. What they do hold is a simple paraphrase of Mrs. Eddy's sayings. Much laughter was created by reading some of Mrs. Eddy's theories. He then proceeded to demolish them, *seriatim.*

Surgery of the Stomach.—Dr. H. Beeckman Delatour of Brooklyn reported one case of gastrotomy and one case of gastrectomy. The latter operation took fifty-five minutes. Hunger was a marked feature. The patient rapidly increased in weight, gaining thirty or forty pounds six months after operation. The patient became pregnant and gave birth to a child. The patient is still alive, although there was a recurrence coincident with pregnancy.

Atresia of the Vagina.—Dr. F. W. Higgins of Cortland said that diphtheria is one of the rarer causes of this condition, only two cases having been previously reported. He had operated successfully on a case due to this cause. Twenty-four ounces of blood were found in the dilated uterus and vagina. Operation should be performed early, before the Fallapion tubes become dilated; strict asepsis is necessary. Flushing the cavity with hot saline solution, wiping dry and packing with iodoform gauze was advised.

Governor Roosevelt, at 5 o'clock, tendered to the members, delegates, invited guests and their friends, a reception at the Executive Mansion. In the evening the annual dinner was served, at the Hotel Ten Eyck.

THURSDAY—FEBRUARY 1.

MORNING SESSION.

Dr. Luzerne Covelle of Ithaca discussed in a paper the shape of the spleen and its surgical relations. This was followed by a paper by Dr. William Mabon of Ogdensburg, on "Surgical Operations in Hospitals for the Insane," in which he discussed the advisability of such work. Operative procedures on insane inmates are being practised quite extensively and reports of beneficial results are not uncommon. The general health is thereby improved and indirectly this improves the mental condition.

Hysteromyomectomy.—Dr. I. S. Stone of Washington, present by invitation, favored supravaginal hysteromyomectomy in the great majority of cases in preference to myomectomy simply. The latter operation is attended with greater mortality and always leaves the patient with the possibility of developing more tumors. Twelve cases were reported.

Cerebrospinal Fluid.—Dr. W. Freidenthal of New York reported a case of cerebrospinal fluid discharged through the nose. There is no connection in these cases with nasal hydrorrhea or hay-fever, which are purely nervous in origin. There is a constant dripping from the nose day and night. This is usually preceded by severe brain symptoms, which are relieved by the discharge. Dr. Scheppegrell of New Orleans, in discussing this paper, insisted that the symptoms favored the supposition that there is a tumor near the hypophysis cerebri and through presence of this tumor fluid is discharged. There is no mucus in the discharge.

Inguinal Hernia.—Dr. Thomas P. Scully of Rome presented the comparative results of radical operative treatment and treatment by injections, with report of cases.

At the executive session Dr. Ransom, in behalf of the Committee on Medical Expert Testimony, reported that there is no prospect of obtaining corrective legislation in view of the constitutional restrictions, and upon request the Committee was discharged.

Election of Officers.—The following officers were elected: President, George B. Fowler of New York; vice-president, George Seymour of Utica; secretary, Frederic C. Curtis of Albany; treasurer, O. D. Ball of Albany. The standing committees remain as before, with the exception of the addition of A. G. Root of Albany and A. E. Davis of New York to the Committee of Arrangements; John H. Pryor of Buffalo to the Committee on Hygiene; T. Z. Jones of Waterville to the Committee on Ethics, and O. D. Ball of Albany to the Committee on Publication.

Emulsion of Cod Liver Oil.—The emulsion with glycerin here given contains eighty per cent. of the oil, is very stable, and not unpleasant to the taste.

℞ Ol. morrhuæ pur.....℥ vi
Glycerini pur.....℥ i
Tinct. quillaiæ.....3 iss
Aq. laurocerasi.....3 i.

M. Ft. emuls. Sig. Shake well. Dose as directed. If the addition of hypophosphite of calcium is deemed desirable, one dram of the salt dissolved in five drams of water is added to the above emulsion.

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THE MEDICAL NEWS.

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ORIGINAL ARTICLES.

THE POLICY OF THE STATE RELATIVE TO THE SPREAD OF TUBERCULOSIS.[1]

BY ENOCH V. STODDARD, M.D.,
OF ROCHESTER, N. Y.;
VICE-PRESIDENT OF THE STATE BOARD OF CHARITIES.

LONG continued observation and carefully conducted scientific research have established the fact that consumption, or pulmonary tuberculosis, is not only a universally prevalent disease, but that its specific character places it among the contagia. These two facts, being accepted as proven, suggest the importance of the immediate adoption of measures for the abatement of this extended evil. In the consideration of means for the accomplishment of this end we are made aware that it is not society only which demands consideration or which is involved, but that the State, in its broader supervisory function, is even more directly interested than the merely social organization.

It is a universally accepted aphorism that the strength and permanence of any State depends upon the health and vigor of its citizens, and that anything which may lessen these characteristics correspondingly reacts upon the productive capacities and general welfare of the State. We have thus two points of view from which to examine the relation of the State to any form of disease especially one which is liable to become generally prevalent and to exert a baneful influence upon the health of its communities. The first of these we may designate as sanitary; and the second as the economic standpoint.

The sanitary welfare of the community has for a considerable period been a subject of solicitous and careful consideration. The causes tending to produce disease and to favor its extension have been scrutinized with scientific care; and, when recognized, have been subjected to legislative provisions for their control or removal. There has thus grown up in our communities, and under a general State supervision, a department of public health. Under favoring legislation an elaborately organized system of health boards, with extended powers, has been established in nearly every community in this State. The powers granted by legislation to such boards have been extensive and, in some respects, absolute, with the design of ensuring promptness and efficiency in stamping out those forms of disease which are known to be contagious or infectious. It is only recently, however, that tuberculosis has been recognized as belonging to the class of contagious diseases. This fact assured, it at once becomes necessary for the State to take such measures as shall place this disease under the same restrictions and provisions as are established for other diseases of a contagious character.

A second point of view referred to is an economic one. It has been ascertained by sad experience that one of the common causes of poverty and pauperism is the prevalence of disease by which the individual is deprived of his capacity for self-maintenance, or the bread winner of the family is removed from his place as provider for a number. In either case the State becomes the loser in proportion to the productive capacity and character of the individual suffering from disease. This fact opens a question of great importance to that department of society and State supervision whose function it is to search out the causes and to establish measures for the relief of such conditions. This at once brings into co-operation the health authorities of the State and the department of supervision of its charitable administration.

Viewed from this two-fold standpoint the question becomes a vitally important one, and the inquiry naturally arises, what shall be the policy of the State in dealing with it?

It is already well known that the number of deaths annually occurring in the State of New York from tuberculosis amount to nearly fourteen thousand; while the incipient and chronic cases of disease existing each year reach the startling figure of about sixty thousand. With the knowledge which we now possess of the preventability of this disease, as well as of the poverty directly traceable to it, the importance of the adoption of a definite policy, by the State, looking towards the diminution and the ultimate eradication of this disease is all important.

It has been suggested that legislation be enacted by which the State shall assume the care of all cases of tuberculosis occurring among the poorer classes of our communities, and that to secure this end sanatoria or hospitals be established by the State to which such dependent cases can be sent for care and treatment. From a casual or sentimental view, such a course may recommend itself; but careful consideration of the subject, in its broadest phase, leads to the rejection of a proposition for such universal care. It is known and appreciated by comparatively few that the State of New York, under its present system of charitable administration of public and private benevolence is already contributing to a greater or less extent to the maintainance of one in every two hundred and fifty-one of its population. The impracticability of carrying out so

[1] Read in the discussion on "State Care of Tuberculous Patients" at the annual meeting of the Medical Society of the State of New York, held at Albany, January 30, 31, and February 1, 1900.

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extended a system, as has been proposed, of providing for the tuberculosis cases by the State becomes apparent. It would seem, therefore, that the province of the State is not so much to assume the direct and detailed care of such patients as to establish such a system, by well advised legislation, as shall enable the several communities of the State to bear their proper part in the care, each of its own dependent cases.

The conclusion that it is not climate, nor sunshine, nor locality, nor life in the open air, nor medical treatment alone which is necessary for the cure of the tuberculous patient, but *the judicious use of each and all of these agencies in the treatment of each individual case*, is being universally accepted. It is not so much the gathering of the incipient and chronic cases into sanatoria and hospitals, and their maintenance there, which we seek to accomplish, as it is to *educate* the patient in the care of himself, and the public at large in these measures which not only provide for the care of the sick, but for the protection of the community, by instructing its members in the means of prevention as well as of cure.

The province of the State, therefore, would be mainly educational, and only custodial so far as might be necessary to ensure these object lessons in care which might be required by some of its communities whose provisions for such education were limited. Those under whose ministrations the sick and needy fall are well aware of the reluctance which they exhibit in regard to removal from their homes. In our larger municipalities, where numbers of the lower and poorer classes are aggregated closely in unsuitable surroundings, the scourge of tuberculosis is found to be mose prevalent. The aversion of people so situated to removal from their homes to any distant institution, no matter how well appointed or how hopeful a provision may be extended to them for a cure, is an almost insuperable barrier to any efforts which would involve their transfer from the neighborhood of their own home. Such circumstances and conditions suggest the importance of establishing a system, by which the sick of any district can be provided for in a local hospital or sanatorium or in the vicinity of their own homes. The importance of what might be called the home sanatorium becomes more and more evident upon farther study. The State of New York possesses, in its extensive variety of hill, valley and upland, sites in the vicinity of almost every center of population, well adapted for the establishment of such sanatoria. The sick poor are more easily led to seek relief in such an institution than in one necessitating an absence from home and friends and a long journey by public conveyance.

It is held by those who have had extended experience in the care of these cases that the cure of tuberculosis in the home sanatorium is less likely to be followed by a relapse than when the cure is accomplished in a distant locality and different climate.

An equally important consideration connected with the home sanatorium is its educational capacity. Such an establishment immediately becomes a center of instruction for the people among whom it is situated. They not only learn the proper care of the consumptive in such hospital and when sick, but are instructed in the best means to be adopted in the home in order to prevent the entrance and spread of the infecting germ of tuberculosis. Each patient in such a sanatorium, after such stay as may be prescribed by the medical attendant, is returned to his home, not only well instructed in maintaining a proper care of himself, but with a knowledge which becomes at once a source of education to his family and neighbors in the proper preventive and curative treatment of the disease.

These conclusions accepted, the policy of the State in the prevention of tuberculosis does not seem difficult of definition. It involves two propositions: First, a legislative one, by means of which may be established a system of control of those conditions favoring the development and spread of this disease; and, second, a provision for the establishment of its educational functions by instituting one or more sanatoria, by means of which the knowledge of the best methods of treatment and prevention can be generally disseminated.

In outlining a policy to be followed by the State, it must be understood at the outset that reference is had to provisions by the State for *incipient* cases only, chronic cases being provided for by the several communities in which they are found. Such provision is already rendered possible by the law, enacted by the last legislature, providing for the establishment by large municipalities, in their immediate vicinity, of hospitals for the care of pulmonary tuberculosis. If this capacity of local provision for chronic cases is extended to incipient cases, an important part of the remaining problem will be solved. The State already possesses a well and carefuly developed system of protecting the public health. Under existing statutes every city, town and village maintains its board of health. Legislation, extending the powers of such health boards by placing tuberculosis among or in the class of contagious diseases, would at once establish an efficient series of local sanatoria under a carefully devised and expert supervision.

It would not be difficult, therefore, to found a system of state hospitals under the general supervision of the State Board of Health, state hospitals proper being under boards of managers, appointed by the Governor and the Senate, while local hospitals would be managed directly by local boards of health, but being still under a general State supervision. The enactment of a law by the Legislature, containing these provisions, would at once develop a series of local hospitals for the care of incipient as well as chronic cases of tuberculosis, in the vicinity of the great centers of population. These would serve as stimuli to the residents of the smaller towns and villages in the establishment of their own hospitals. There could thus be adopted and enforced in every household,

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a policy, in regard to tuberculosis, which would exert a power of prevention sufficient to control the existence and development of this disease, as fully as of smallpox or any other of the contagia.

THE JUSTO-MAJOR PELVIS AS A FACTOR IN THE CAUSATION OF PERINEAL INJURIES.

BY JOSEPH BROWN COOKE, M.D.,
OF NEW YORK;
LATE ATTENDING PHYSICIAN TO ST. MARY'S FREE HOSPITAL FOR CHILDREN, OUT-DOOR DEPARTMENT, ETC.

IT IS, of course, a self-evident fact that among patients with justo-major pelves the obstruction offered to the descent of the fetal head is inversely proportionate to the size of the bony ring through which it has to pass, and that lacerations of the maternal soft parts are apt to occur as a result of precipitate labor or of malpositions of the presenting pole. Nevertheless, it is customary with many practitioners to give a favorable prognosis in such cases, and the patient or her husband is assured that the labor is bound to be easy because the pelvis is usually large and roomy. Such a prognosis is seldom verified in the lying-in chamber, as almost any obstetrician's case-book will show.

Posterior positions of the occiput, face, brow and compound presentations, prolapse of the cord and similar abnormalities all fall to the share of the "large and roomy pelvis," and set at naught the encouraging prognosis given weeks before.

Granting, however, a normal position of the vertex (occiput anterior) the outcome is seldom much better, and it is this class of cases to which particular attention is called. In such the first stage is apt to be tedious, the head does not engage readily, flexion is seldom complete and often rotation is improperly accomplished; the second stage is no better than the first, while, to make a bad matter worse, the maternal soft parts are almost invariably badly lacerated when the head passes through the vulva.

Notwithstanding the fact that with an anesthetic and careful management of the head its passage through the vulva can be controlled exactly, it is difficult to prevent this accident. The most rational explanation thereof seems to be that owing to the abnormally increased caliber of the justo-major pelvis the head does not "mold," and when it is delivered it distends the maternal soft parts to an excessive degree. It has, in fact, all the characteristics of a head in a breech delivery. Of course, if the infant is small the perineum may be saved, but women with justo-major pelves do not as a rule bear small children.

The following brief outline of a case will serve to illustrate this type of labor:

M. T., American, twenty-two years of age, primpara, one of twenty-four children. The patient is a woman of fair height, proportionately well built, strong and healthy. Her external pelvic measurements are:

	Cm.	Average.
External Conjugate	21.5	(20¼)
Ant. Sup. Spines	31.	(26)
Post. Sup. Spines	10.	(9⅝)
Iliac Crests	31.	(29)
Intertrochanteric	33.	(31)

The sacral promontory is well out of reach.

Six days before the birth of her child labor pains began and lasted for about twelve hours. Abdominal examination showed the fetus to be lying in the first position (L. O. A.). By vaginal examination the head was found to be almost resting on the pelvic floor, with the os uteri directed backward toward the sacrum and dilated to a diameter of about 3 cm. The membranes were intact; fetal heart 140. When her pains stopped she was allowed to go on from day to day under the care of a competent nurse, who was instructed to report at once the onset of any untoward symptoms. At the end of six days her pains returned and she was delivered naturally in seven hours. During the latter part of the second stage chloroform was given in sufficient quantity to prevent too rapid expulsion of the head, and every effort was made to save the perineum, which in spite of the utmost care was torn nearly to the sphincter. The child weighed seven and one-quarter pounds and its head was nearly globular, showing no signs of any molding or compression whatsoever. The lacerated tissues were repaired at once.

There is apparently no help for these cases, unless it be episiotomy judiciously performed; a procedure which the writer mentions only to condemn. Beyond this the physician can only bend every effort toward saving the soft parts with well-timed anesthesia and proper manipulation. For the rest, he should give a guarded prognosis and stand ready to perform an immediate and complete perineorrhaphy should circumstances require it.

269 West 138th Street.

REPORT OF BACTERIOLOGICAL INVESTIGATIONS UPON YELLOW FEVER.[1]

BY ARISTIDES AGRAMONTE, M.D.,
ACTING ASSISTANT SURGEON U. S. ARMY.

Preface.—A report upon investigations carried out in Santiago de Cuba in the summer of 1898 was rendered before the work referred to in the present writing was begun. Frequent reference is made to it as "Report, December, 1898."

The bacillus icteroides, claimed by Dr. G. Sanarelli to be the causative agent of yellow fever, received particular attention, and having unexpectedly found it in three instances which certainly were not yellow fever cases, we can the more regret that the amount of work, which was excessive for one single investigator, did not

[1] This report embraces the research work undertaken in the City of Havana by order of the Surgeon General of the United States Army. It was begun early in December, 1898, and suspended in November, 1899; including a period of six weeks spent at Santiago de Cuba during the last epidemic.

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allow the planting of material from many other than undisputed cases of yellow fever cadavers.

Hog-cholera, under the name of *pintadilla,* is a disease which prevails in this island to an enormous extent. Its pathogenic organism must be widely disseminated, and I do not doubt that careful cultures from the organs of cases of typhoid, chronic dysentery and the obscure fevers which are endemically met here, would reveal the bacillus icteroides as one of the many secondary invaders in the last septicemic processes.

Introduction.—In the summer of 1897 there appeared before the medical world from the pen of the renowned bacteriologist Giuseppe Sanarelli, a "memoire" upon studies he had made in Montevideo that enabled him to isolate a bacillus which in his opinion was the specific pathogenic organism of yellow fever. The discovery being announced by such a savant and through the columns of the *Annals of the Pasteur Institute of Paris,* it caused profound sensation: the work was published in several languages and in a comparatively short period the scientific world tacitly accepted the claims of Sanarelli and patiently awaited the preparation of the prophylactic serum, which was announced as already undergoing manufacture.

Cultures of Sanarelli's bacillus icteroides were secured in various laboratories and experimental work begun for the purpose of verifying his assertions. Unfortunately, indeed, for science and humanity, the results obtained have been most unsatisfactory; they lack that uniformity which is so essential and constant in all truly scientific facts. Even in the hands of Sanarelli's stanchest supporters this organism has behaved differently from the way described by the discoverer (DeLacerda and Ramos., *Archiv. de Med. Experimentale,* May, 1899); the frequency with which it has been found in the yellow fever cadavers varies with different investigators.

At the time of the epidemic which overran the littoral of Mississippi and Louisiana in the fall of 1897 much research was undertaken with the results herein briefly summarized. Dr. O. L. Pothier in his report of work performed at the Isolation Hospital, New Orleans, La. (*Jour. Am. Med. Assoc.,* April 16, 1898, p. 884-888) claims to have found Sanarelli's bacillus in only three out of fifty-one yellow fever autopsies; yet such result leads him to conclude that this organism is the "special cause of yellow fever." But that is not all, it happens that he did not isolate bacillus icteroides, for the organism which he describes required from 3.5 c.c. to 5 c.c. of a 24-hour bouillon culture to kill a rabbit; and a dog injected with 5 c.c. of a 24-hour bouillon culture, intravenously, survived even after a subsequent injection of 10 c.c., while the bacillus claimed by Sanarelli as his discovery proves fatal to rabbits in doses of 1 c.c. or 1.5 c.c., and to dogs from 3 c.c. to 5 c.c.

Drs. Wasdin and Geddings of the Marine Hospital Service, in a preliminary and separate report of the work performed during the same epidemic (Public Health Reports, Washington, D. C., Nov., 1898, vol. xiii., No. 45), give what at first glance would appear as more satisfactory results. They claim to have found the bacillus icteroides in thirteen out of sixteen cultures made from yellow fever cadavers (the number not stated) and declare that their results "indicate that the bacillus icteroides of Sanarelli is the specific agent in the causation of yellow fever." (Geddings.)

In July of the current year we were presented with a complete and final report from these gentlemen of their original investigations upon the "Cause of Yellow Fever," in which, with evidently genuine candor, it is claimed that "in the blood of yellow fever cases extracted during life bacillus icteroides has been found in thirteen of the fourteen cases, with one negative, a per cent. of 92.85." (Report on Cause of Yellow Fever, p. 25. Also MEDICAL NEWS, Aug. 26, 1899, p. 266.)

To the average reader this statement would not seem at all remarkable if it were not for the fact that the result was reached, not through skillful and painstaking technic, but the reverse. All that Drs. Wasdin and Geddings had to do was to prick the lobe of the ear, collect the blood therefrom in glass bulbs, plant in bouillon and after a short period (not stated) plate from these cultures; and lo! bacillus icteroides occurred in every case but one. The degree of contamination which takes place by such procedure can easily be appreciated by the merest tyro in bacteriology. How Drs. Wasdin and Geddings can place any reliance upon results thus obtained is something that we cannot explain, knowing as we do their extensive scientific attainments.

In the same report we find this statement: "In this negative case Dr. Meacham obtained bacillus icteroides post-mortem." The writer is in a position to correct this mistake having received from Major Meacham a culture of the organism which he believed to be bacillus icteroides and which he had isolated from the case of Manuel Corujo (No. 9 in the Wasdin-Geddings Report) and *not* from Pedro Quintela (No. 14 in the Report) as stated by Wasdin and Geddings. On page 25 of their report, Drs. Wasdin and Geddings say, "In thirteen instances we isolated bacillus icteroides in pure culture." This statement is misleading, to say the least. Once the organism is isolated it must necessarily be in pure culture, or else it will *not* be *isolated.* If the remark quoted is intended to convey the idea that bacillus icteroides *occurred* in pure culture, then the statement is at fault, indeed, for in the same report we read that in Case No. 1, it was associated "with bacillus proteus vulgaris and bacillus coli[2];" in Case No. 5, with "bacillus coli;" in Case No. 7, they obtained at the same time colonies "also of two other organisms, one a colon;" in Case No. 10 it

[2] The bacillus coli (Escherich) Mig. is used throughout this report for the bacterium coli commune of Escherich.—Migula, p. 734.

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occurred "together with a variety of bacillus coli;" in Case No. 22, the blood gave "mixed cultures of bacillus icteroides and bacillus coli." When associated with other organisms it could not have been present in pure cultures.

The fifth "conclusion" arrived at by the Commission (Report on the Cause of Yellow Fever) is to the effect that "cases do occur in which the bacillus icteroides cannot be found in the blood or organs in which it might be deposited." Yet, the Commission was so fortunate that in the fourteen cases examined here (Havana) it found the bacillus icteroides in the blood or in the organs where it had been deposited therefrom. Whence was the above quoted conclusion drawn? From the failure of others to find it?

The writer does not propose to make a detailed criticism here of the "Report on the Cause of Yellow Fever," but as his results in spite of apparently more careful methods than those employed by Drs. Wasdin and Geddings have been so very much unlike the achievements of these gentlemen, he thinks it not inopportune to call attention to the assertions and contradictory statements quoted above.

The fact that bacillus icteroides is often agglutinated and its motility arrested by the normal serum of the horse, dog, rabbit and other animals as well as by the serum of many persons who never had yellow fever, which fact has been ascertained by Novy,[1] Wasdin and Geddings,[2] and by the writer, certainly argues very strongly against the specificity of this organism in yellow fever. The fact that it promptly agglutinates by the action of hog-cholera serum in very high dilution again speaks most eloquently against the imputed relation it is said to bear upon the causation of yellow fever; Drs. Reed and Carroll have clearly established a close relationship between bacillus icteroides and bacillus cholera suis.[3] Finally, the incontrovertible fact that no protection to infection by bacillus icteroides is afforded by the serum of real yellow fever convalescents seems to very pointedly indicate that the relations between this organism and the disease in question must be of a most indirect or evanescent character.

In following the course of his bacteriologic investigations, the writer was compelled to abandon the digestive and respiratory tracts, which, upon planting therefrom, invariably produced such luxuriant growths as to very materially obstruct the process of isolation and classification; cultures were made principally from the blood during life, the heart blood, liver, spleen, kidney, bile and urine, the methods employed being described in the text. In the report handed to you in December, 1898, we said: "The work I have the pleasure to record here is far from ended," etc. Allow me to add to-day that the work here recorded is still "far from ended," moreover, that it will never be, until every investigator understands that his duty is not to join the ranks that will promote personal aggrandizement, that he must not undertake research with preconceived conclusions, but that his labor must ever lie in the narrow path of unalloyed scientific truth. The writer must confess that the *cause* of yellow fever has escaped him; but the series of disappointments to which this research has subjected him are certainly amply repaid by the promising results derived from his attempts at serum-therapy.

Conclusions.—1. The specific pathogenic microorganism of yellow fever is as yet an unknown entity in spite of the work reported by various observers; apparently, new methods of cultivation must be initiated or new culture media devised in future research.

2. The bacillus icteroides of Sanarelli, lately (1897) asserted to be the causative agent of yellow fever, is no more concerned in the production of this disease than the common colon bacilli which are constantly found in the blood and viscera of individuals suffering or dead from yellow fever.

3. When approved bacteriological methods are employed, the bacillus of Sanarelli does not, as a rule, appear in cultures from the blood of yellow fever patients.

4. Bacillus icteroides may be and has been found present in the tissues of cadavers dead from other diseases, neither allied nor similar to yellow fever.

5. The bacillus of Sanarelli, when subjected to agglutination tests, is not affected by the serum of yellow fever patients or convalescents.

6. The serum of convalescent yellow fever cases affords absolutely no protection against infection by the bacillus of Sanarelli.

7. None of the organisms thus far isolated from yellow fever cases can be considered as the pathogenic agent of the disease.

8. Experimental evidence has demonstrated that the serum of individuals convalescing from yellow fever, or who lately suffered an attack of this disease, will very materially and favorably affect those actually under the influence of the infection if injected under the skin, on or before the fourth day after the invasion; but that it requires further study to determine the protective power of different sera and the dosage.

9. From the experimental evidence above referred to, we are led to believe that the subcutaneous injection of convalescent's serum will convey immunity to individuals whom we to-day consider as susceptible to the disease.

Material for Research.—Material for research was obtained from cases of yellow fever during life at various stages of the disease; blood was drawn by pricking the ear-lobe for the purposes of planting and testing its clumping power, and from a vein at the elbow-joint; tissues and blood from various organs at autopsies were also obtained, some were planted, others were used in attempts at infecting animals. Later in our investigations we drew blood from convalescent yellow fever patients; serum was thus obtained

[1] MEDICAL NEWS, September 10, 1898.
[2] "Report on Cause of Yellow Fever," p. 19, 24, and 78-79.
[3] MEDICAL NEWS, September 9, 1899.

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with which to test its curative properties upon yellow fever cases and its protective power upon animals inoculated with some of the organisms derived from our cultures. A large number of cultures were made at the City Morgue from cases of sudden death, and some from necropsies other than of yellow fever cases.

Ear-Tip Blood.—The method of obtaining blood from the ear-tip for bacteriological research is one that is very generally and properly condemned; in spite of this fact, and the knowledge that the process is faulty and unreliable, we were induced to persevere upon its use by the rumor, lately confirmed, that Drs. Wasdin and Geddings, then engaged in the same work as the writer, were securing excellent results from it, isolating the bacillus icteroides in every case in which the blood was thus procured. Our method was to wash the lobe of the ear with alcohol and sterile absorbent cotton, pass the point of a lancet through the flame of an alcohol lamp, prick the ear with it, receive the issuing blood on the end of a sterile capillary glass tube, immediately sealing it at the flame; the two or three drops thus obtained were planted in bouillon within a half hour; after an interval of from six to eight hours this was plated. In some few instances we plated directly from the blood. From reading Drs. Wasdin and Geddings' "Report on the Cause of Yellow Fever," the writer is convinced that he washed off bacillus icteroides from the ear-lobe of every one of the following cases in which the "results" appear as copied directly from our notes. (See table I.)

From Nos. 4 and 20 we obtained a micro-organism very much like bacillus icteroides; its effect upon various culture media was identical with that produced by this bacillus, but it gave large quantities of gas with saccharose and glucose bouillon and its pathogenic action was less intense than that of bacillus icteroides. Aside from these two cases, there was no one organism obtained from any of the others that required more than a cursory examination to determine its extraneous origin and none was sufficiently constant to deserve even the suspicion that it was at all related to the disease. From this we conclude that blood taken from the ear-tip, in spite of cleansing processes such as may be carried out at the patient's bed-side, is unfit for anything

TABLE I.

No.	Name.	Age.	Date.	Day of Illness.	Result.
1	Th. B. Doane.....	52 yrs.	Jan. 9	4th.	Two non-pathogenic bacilli.
2	Arth. Atwood.....	23 "	Feb. 11	4th.	Not yellow fever.
3	Pat Smith	23 "	" 13	9th.	Not yellow fever; colon bacillus tetrad.
4	XX. Bradshaw.....	.....	" 26	10th.	Not yellow fever; small bacillus.
5	Man. Corujo.....	20 yrs.	Mar. 22	8th.	Tetrads; chromogenic, etc.
6	Adres Sauter.....	20 "	April 6	6th.	Not yellow fever; contaminated.
7	Pedro Quintela	40 "	" 22	6th.	Colonies of two liquefying bacilli; micrococi, etc.
"	" " "	.....	" 24	8th.	A colon bacillus; a chromogenic coccus; mould.
8	Kauna Sessin	.....	" 21	4th.	Micrococ. tetragenous; moulds.
9	P. Rodriguez	36 yrs.	May 15	5th.	One non-motile bac.; staphylococci.
10	Higinoi Guerra	14 "	June 4	2d.	Not yellow fever; contaminated.
11	A. J. Bathon	27 "	" 8	6th.	Not yellow fever; non-motile bac.
12	Rob. Stewart	33 "	" 12	5th.	All cultures contaminated by moulds.
"	" " "	.....	" 16	9th.	A staphylococ.; two non-motile bacilli not pathogenic.
13	Wm. Kehrer	27 yrs.(?)	" 14	4th.	A tetracoccus and a long saprophytic bacillus.
14	Geo. Woods.....	22 "	July 21	6th.	One mould; two cocci; one chromogenic bacillus.
15	J. G. Thatcher.....	38 "	" 22	12th.	Mould contamination.
16	Mike Deveny	30 "	" 22	4th.	Staphylococ.; red colony.
17	Lant Sears	35 "	" 22	5th.	A non-motile bac.; mould.
18	Wm. Demuth	24 "	" 21	3d.	Tetrad; mould.
19	Wm. Shew	25 "	" 18	9th.	Two liquefying cocci.
20	W. J. Mooney	37 "	" 31	4th.	Staphylococci; a colon bacillis; mould.
21	J. A. Hays	20 "	" 31	4th.	Staphylococcus aureus.
22	Luis Colome.....	27 "	" 31	7th.	Tetracoccus; a chromogenic bacillus.
"	" "	.....	Aug. 3	10th.	Colon bac.; liquefying cocci.
23	J. J. Dougherty	29 yrs.	" 15	7th.	A non-motile bac.; mould.
24	B. Fowier.....	31 "	" 15	8th.	Chromogenic bacteria.
25	A. Weidner	33 "	" 15	5th.	Chromogenic bacteria.
26	Tim Healy	27 "	" 15	5th.	Staphyloc.; a non-motule bac.
27	S. Scanlan	.....	" 18	2d.	Large micrococci; mould.
"	" "	.....	" 21	5th.	A chromogenic organism.
28	H. R. Clay.....	27 yrs.	" 23	3d.	A liquefying coccus; a non-motile bacillus.
29	Rich. Graves	31 "	" 28	4th.	A colon bac.; staphylococci.
30	Ed. Vragel	19 "	" 27	4th.	Chromogenic bacteria.
"	" "	.....	" 29	6th.	Tetracoccus; a red colony.
31	Jess. Hilton	22 yrs.	Sept. 6	4th.	A long bacillus and two chromogenic organisms.
32	J. Thorsby	24 "	" 4	5th.	Mould contamination.
"	" "	.....	" 6	7th.	Micrococci; a colon bacillus.
33	Chas. Mitchell.....	30 yrs.	" 6	3d.	A liquefying coccus; mould.
"	" "	.....	" 8	5th.	A colon bac.; staphylococci.
34	Dan Coleman.....	53 yrs.	" 8	6th.	Tetrad; staphylococci; mould.
35	Chas. Rodgers	24 "	" 8	5th.	Much contaminated.
36	S. Fichman.....	29 "	" 14	4th.	Staphylococcus aureus.
"	" "	.....	" 16	6th.	A non-motile bac.; micrococci.
37	H. Sutherland.....	21 yrs.	Oct. 10	4th.	Badly contaminated.
"	" "	.....	" 12	6th.	Micrococci; a colon bac.

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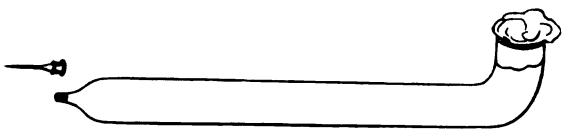
more than microscopical examination or agglutination tests, that planting from such blood will in the majority of instances be contaminated, and that at all events the results thus obtained will always be open to doubt and adverse criticism.

Venous Blood.—The conviction of the worthlessness of ear-tip blood as material for research induced us to devise some means whereby to obtain blood during life in a manner that would preclude all probability of contamination. With this object in view we had made a number of glass tubes (Fig. 1) coming to a point with a

Fig. 1.



Instrument for Collecting Blood.

ground tip to which the platino-iridium needle is attached. The curved end is for the purpose of preventing the blood as it enters the horizontal tube from coming in contact with the cotton plug. The glass tube with its end cotton-plugged is sterilized, wrapped in gauze or filter paper. At the moment of using the needle is held by the point and the other end subjected to the flame of an alcohol lamp; the glass tube is unwrapped and the needle is fixed to the ground tip; the whole needle is then held in the flame until it becomes red hot, when we shall have a perfectly sterile tube from the point of the needle to the cotton plug in the curved glass tube. The bend of the elbow having been made surgically aseptic by the use of soap and water, bichloride solution and ether, pressure is made above while the needle is introduced into any of the superficial veins that will consequently swell up; once into the vein, the blood will readily flow through the needle into the glass tube and from one to six cubic centimeters may be thus collected.

The culture media may be carried to the bedside, or the blood safely taken into the laboratory and planted; one or two drops are allowed to fall into each tube. This method of securing aseptic blood has given uniform results in our hands. The pain inflicted is not greater than that produced by the ear-tip process and no greater care of the puncture is required, while the safeguards by which it is surrounded will necessarily inspire confidence in the results derived from its employment.

Out of a total of 281 agar tubes there were but 8 contaminated; of 25 milk plantings only one contamination, and of 49 bouillon tubes, 2 became contaminated. In not a single instance did the bacillus icteroides make its appearance. The organisms which developed in our culture media were thoroughly studied, with the following results: In case No. 4, one agar tube contaminated by staphylococcus pyogenes albus. In case No. 7, three agar tubes contaminated by a bacillus which liquefies gelatine; the same organism in all the tubes; 3 c.c. of a bouillon culture failed to kill a guinea-pig weighing 325 grams. In case No. 17, one milk and two agar tubes contaminated by a large non-liquefying micrococcus which produces endospores; subcutaneous injection developed abscesses, localized. In case No. 21, two bouillon and one agar tubes contaminated by mould. In case No. 27, one agar tube contaminated by mould, and a bacillus which forms filaments of unusual length, coagulates milk and renders a decided acid reaction to all culture media. None of the organisms obtained can be accused of being the causative agent of yellow fever. The result is disappointing, indeed, but such has been this investigation from the beginning; the only satisfaction that can be derived from it lies in the consciousness of its truth and a confidence in the methods employed.

Necropsies upon Yellow Fever Cadavers.—We believe that the history of each case autopsied, if detailed here, would make this report unnecessarily extended. The facts placed before each name in the following list will enable any one to verify them, if so inclined, by referring to the records of the Yellow Fever Hospital at Santiago de Cuba and Las Animas Hospital at Havana. Sections of tissues from all these cases were sent, from time to time, to the Curator of the Army Medical Museum, Washington, for study at the Pathological Laboratory of that institution. For the sake of brevity the notes made upon the pathological lesions encountered are also omitted; suffice it to say that the degree of

TABLE II.

No.	Name.	Day of Illness.	Amount Drawn.	Bouillon.	Milk.	Agar.
1	Manuel Corujo..	8th.	3 c.c.	.....	.....	14 tubes.
2	Geo. Woods	7th.	5 c.c.	.....	.....	6 "
3	Mike Deveny....	4th.	5 c.c.	.....	.....	12 "
4	Arth. Hayes	6th.	3 c.c.	.....	.....	10 "
5	Robt. Cole.....	7th.	5 c.c.	5 tubes.	.....	12 "
6	T. H. Buchanan.	3d.	4 c.c.	.....	.....	20 "
7	G. P. Thomas ..	9th.	3 c.c.	8 tubes.	.....	11 "
8	Land Sears	5th.	5 c.c.	.....	.....	14 "
9	Wm. Demuth...	3d.	3 c.c.	.....	.....	8 "
10	B. Dadd.....	4th.	5 c.c.	.....	.....	9 "
11	Wm. Shew	5th.	3 c.c.	.....	.....	21 "
12	Wm. Mooney ...	3d.	3 c.c.	.....	.....	12 "
13	J. A. Hays.....	5th.	5 c.c.	.....	.....	16 "
14	Luis Colome....	4th.	7 c.c.	.....	.....	8 "
15	J. G. Thatcher..	5th.	5 c.c.	.....	.....	10 "
16	J. J. Dougherty .	7th.	2 c.c.	.....	.....	8 "
17	B. Fowler	5th.	4 c.c.	.....	4 tubes.	12 "
18	A. Weidner.....	3d.	3 c.c.	3 tubes.	.....	6 "
19	Tim Healy.....	5th.	2 c.c.	.....	2 tubes.	4 "
20	S. Scanlan	6th.	6 c.c.	4 tubes.	4 "	8 "
21	H. R. Clay.....	9th.	5 c.c.	6 "	.....	9 "
22	Ch. Allison	8th.	2 c.c.	4 "	.....	.....
23	Rich. Graves....	7th.	3 c.c.	2 "	.....	7 "
24	Ed. Vragel	8th.	2 c.c.	.....	.....	4 "
25	J. Thorsby.....	9th.	3 c.c.	.....	3 tubes.	6 "
26	Ch. Mitchell	7th.	2 c.c.	.....	.....	8 "
27	Max Thompson .	5th.	3 c.c.	3 tubes.	4 tubes.	4 "
28	Ch. Rodgers	8th.	5 c.c.	3 "	4 "	4 "
29	S. Fichman	3d.	4 c.c.	3 "	.....	8 "
30	E. Bubeck	3d.	4 c.c.	6 "	.....	6 "
31	Dan. Coleman ..	3d.	3 c.c.	2 "	4 tubes.	4 "

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fatty degeneration of the liver was intense and "*black vomit*" was present in the stomach of *all* of them. Other lesions, also common to all, varied in the degree of their intensity; such were the heart infiltration, renal affection, engorged vessels, internal hemorrhages, icteric skin, etc. The disease in all these cases followed a typical course, as evidenced by its onset, development and the pathological lesions it produced (See table III.)

TABLE III.

No.	Name.	Rank and Regiment.	Age.	Admitted.	Died.	Time after Death of Autopsy.
1	F. L. Johnson ..	Priv. 2, 5th Inf.	27 yrs.	July 12	July 17	3 hrs.
2	Sam Griffith	Civilian.	25 "	" 13	" 14	3 "
3	Wm. Stewart ...	Civilian.	24 "	" 13	" 14	12 "
4	Wm. Turney ...	Private H'l C'ps	34 "	" 12	" 15	2 "
5	Geo. Olsen	Civilian.	35 "	" 13	" 19	1 "
6	Arthur Hayes...	Sgt.Com. Dept.	44 "	" 13	" 20	5 "
7	Robt. H. Cole ..	Civilian.	30 "	" 15	" 23	3 "
8	John Mack	Civilian.	32 "	" 15	" 28	11 "
9	John Fulley	Civilian.	38 "	" 29	" 29	1 "
10	James M. Hays..	Civilian.	20 "	" 30	Aug. 2	1 "
11	Wm. J. Mooney.	Civilian.	37 "	" 29	" 4	8 "
12	D. V. Fernandez.	Civilian.	30 "	Aug. 1;	" 18	6 "
13	Reed Lucas.....	Priv. K, 2d Art'y	19 "	" 22	" 26	2 "
14	Cliff Calhoun ...	Priv. B, 2d Art'y	33 "	" 24	" 28	8 "
15	Clyde W. Sheets.	Priv. I, 2d Art'y	26 "	" 30	Sept. 3	9 "
16	N. Goodwin	Srgt. I, 2d Art'y	25 "	Sep. 2	" 7	3 "
17	David Peebles ..	Civilian.	28 "	" 10	" 13	2 "
18	Ramon Borbolla.	Civilian.	21 "	" 13	" 18	10 "
19	Henry Olsen....	Civilian.	45 "	Oct. 7	Oct. 7	3 "
20	John Corey.....	Civilian.	25 "	" 8	" 10	3 "
21	Th. C. Smith...	Civilian.	21 "	" 23	" 27	12 "
22	B. F. Markwood.	Civilian.	24 "	" 24	" 28	7 "
23	Henry M. Land.	Civilian.	24 "	Nov. 3	Nov. 12	12 "

The first eleven cases occurred at Santiago de Cuba, the twelve that followed at Havana.

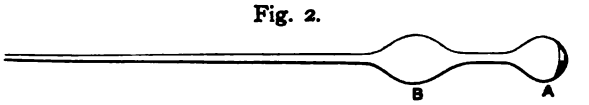
The conditions under which the autopsies were performed at Santiago de Cuba compelled us to refrain from attempting any cultures by the side of the cadaver and made it necessary to collect the material, in capillary glass tubes, and then take it into the laboratory tent, there to plant it in the culture media. For this purpose we made use of double-bulbed glass tubes (Fig. 2). After sterilizing the surface of the organ by means of a heated blade, the end of the capillary tube was broken off, passed through the flame, the bulb, *A*, heated and then the point introduced into the organ; by working the glass tube back and forth, considerable tissue and blood is made to enter into the bulb *B*, promoted by the cooling of the air in bulb *A*. When a sufficient amount is obtained, the end of the tube is sealed at the flame and the material is ready for planting. By having the double bulb, the material does not come in contact with the heated glass but remains at the first expansion in the tube.

Bacillus coli.—This organism, or rather some member of this group, was present in the cultures from every one of the autopsies above recorded. It was constantly found in the liver; in 8 cases (Nos. 1, 3, 4, 7, 9, 14, 21, 23) it occurred in cultures from the heart-blood; it was recognized in cultures from the kidney of 6 cases (Nos. 1, 2, 4, 5, 8, 20), the spleen of 4 cases (Nos. 4, 7, 11, 16), and the urine of three (Nos. 2, 9, 10).

Both motile and non-motile forms were isolated. The colon bacillus, like the majority of the organisms here described, must be one of the many invaders of the circulation at the last moments of the individual's life; we are led to this belief, not only because of the frequency of its presence, but more so from the fact that it was not found in the blood of patients during life.

Bacillus X (Sternberg).—Associated with the bacillus coli in a large number of cultures, its presence being recognized in some instances only after passing through guinea-pigs, was the bacillus X of Sternberg. This organism presented peculiar motility in some cultures while in others it occurred as a non-motile bacillus. It was classified principally from its pathogenic action on guinea-pigs which, when inoculated with pure cultures of bacillus coli, usually recovered; when these cultures contained bacillus X, a fatal result was the rule. It becomes deprived of its motility with great readiness, sometimes within a period of a few days. Passing through susceptible animals will not restore locomotion. It is somewhat larger than the common colon bacillus; it stains readily by the aniline colors; retains the stain by Gram's method; grows easily in the ordinary culture media; does not liquefy gelatine. It is pathogenic to guinea-pigs and rabbits in intraperitoneal injections of from 1 c.c. to 3 c.c. of 24-hour bouillon culture. It was obtained in eleven autopsies, as follows: In the liver of six (Nos. 2, 3, 8, 11, 14 and 16); in the spleen of three (Nos. 2, 5 and 9); in the kidney of one (No. 17); in the urine of three (Nos. 15, 17 and 21) and in the blood of No. 13.

Fig. 2.



Double bulb for autopsy collections.

Drs. Wasdin and Geddings claim to have isolated this organism from the stools, urine and blood of a case of yellow fever,[1] but they add "called by Sternberg X, and by Archinard A and B." The two organisms referred to are as unlike as bacillus X and bacillus icteroides, and no one before has ever claimed their identity.

Bacillus pyocyaneus.—This organism, whose description we shall but briefly outline here, was obtained in cultures made from autopsies Nos. 1, 8, 14, 19, 20, 21, and 23. It is a short, motile bacillus; it grows in bouillon, potato, agar and

[1] Report on Cause of Yellow Fever, p. 16.

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gelatine, liquefying this last medium in two or three days after planting. It gives to agar and gelatine, sometimes to potato, a light fluorescent greenish tint. Some of the organisms here classified as bacillus pyocyaneus may have been bacillus fluorescens liquefaciens (Sternberg), as no animal inoculations were undertaken except in two instances (Nos. 19 and 21). The organism was pathogenic to guinea-pigs and rabbits in subcutaneous injections of 0.5 c.c. or 1 c.c. of a 24-hour bouillon culture.

Bacillus icteroides (*Sanarelli*).—The bacillus icteroides occurred in seven autopsies out of twenty-three (Nos. 5, 6, 10, 11, 15, 16 and 23) making an average of 30.43 per cent. Its frequency in the organs was as follows: In cultures from the liver and heart-blood of No. 5; from the liver and spleen of No. 6; from the liver and kidney of No. 10; from the kidney, blood and urine of No. 11; from the liver and pericardial fluid of No. 15; from the kidney of No. 16; from the liver and spleen of No. 23. Hence it will be seen that it was present in the liver of 5 cases, heart-blood of 2 cases, spleen of 2 cases, kidney of 3 cases and pericardial fluid of 1 case. We have been surprised at the comparative scarcity with which this organism has developed in our cultures, when, according to the report of the Marine Hospital Service Commission (Drs. Wasdin and Geddings), it was present at some time or other in the blood of all (14) cases of yellow fever that were examined, but one. Every one of our cultures was closely searched for evidences of this bacillus, and the methods we employed towards its discovery were those most highly approved of by bacteriologic technic. If we ever left a colony without thorough examination or classification, it was because we found it composed of micrococci or non-motile bacilli; while on the other hand much time was spent upon motile bacilli which at all resembled in their cultural characteristics the bacillus icteroides That this organism is not to be found in yellow fever as frequently as Drs. Wasdin and Geddings would have us believe is shown by the evidence of Sanarelli's own supporters, Drs. De Lacerda and Ramos,[1] who vainly sought for it during last winter's epidemic in Rio de Janeiro. They say: "*Mais il faut dire, avant cela, que l'un de nous (M. Ramos) a fait des tentatives réitérées dans le but d'isoler du cadavre le bacille de Sanarelli, sans y réussir.*"

These gentlemen have found decided discrepancies between Sanarelli's description of the organism, and the way it has behaved in their hands; in the article referred to above, they say (p. 384): "*Malgré toute notre bonne volonté, il faut bien dire, nous n'avons pas pu trouver cette forme, dite spécifiique, des colonies, dans un nombre assez grand de cultures, soit en gelatine, soit en gélose.*" Sanarelli pretends to explain this by claiming unusual "pléomorphisme" for bacillus icteroides.

The organism which we isolated from these autopsies is a small bacillus that stains readily with the ordinary stains and gives up the color with Gram's method. It is motile, aerobic (facultative anaerobe), and grows in the usual culture media, producing gas in glucose bouillon. It is pathogenic to guinea-pigs in subcutaneous injections of from 0.3 c.c. to 1 c.c. and also to rabbits and dogs, the latter dying from an intravenous inoculation of 6 c.c. The lesions it produces are such as are found with many other organisms; now and then, in the liver of guinea-pigs, we have observed the focal necroses first described by Dr. Reed of the Army Medical Museum Laboratory, Washington, D. C. We have not engaged in experiments to ascertain its connection with the hog-cholera bacillus. That a close relation between them must exist is made evident by the researches of Reed and Carroll.[1] Bacillus icteroides was isolated by us in 33.33 per cent. of the cases examined at Santiago de Cuba in the summer of 1898.[2]

Bacillus acidiformans.—This was present in autopsies Nos. 12, 20 and 21; obtained in cultures from the livers of these cases. It is a non-motile, rather large bacillus; it quickly acidifies the culture media forming gas bubbles in gelatine stick cultures. It had a decided action upon litmus milk, a heavy growth on agar slants; its pathogenic power was not determined.

Staphylococcus pyogenes aureus.—This occurred in cultures from the liver of autopsy No. 3, but has not been met with in any other examination.

Staphylococcus pyogenes albus.—This was obtained in cultures from the liver of case No. 12. It has frequently occurred as a contamination from the surface of the body or from the air.

Chromogenic bacteria from air contamination were also found.

Anaerobic cultures were made exclusively from some of the Havana autopsies; particularly from cases Nos. 14, 16, 17, 21 and 22.

The method employed has generally been the substitution of the air in the culture tube and media by hydrogen gas, then sealing the test tube at the blow-pipe. In this manner several growths have been developed; nearly all of them were identified with like organisms in our aerobic cultures, while only two bacilli developed that may be said to have been strict anaerobes: one of them was undoubtedly the *bacillus cadaveris of Sternberg.* This was present in cultures from the livers of autopsies Nos. 14 and 21. The growth was obtained in plain-agar slants and stick cultures. The organism isolated was afterwards cultivated in glycerine agar (2 per cent). A subcutaneous injection proved fatal to three guinea-pigs. Two others injected with the same organism recovered.

A Sporulating Bacillus.—This was present in the liver of No. 21. The original growth was

[1] "Le Bacille Icteroide et sa Toxine," Arch. de Med. Exper. et d'Anat. Path., Vol. XI., No. 3, May, 1899.

[1] MEDICAL NEWS, September 9, 1899.
[2] Author's Report, December, 1898.

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obtained in a plain-agar tube stick culture, treated as above outlined. It developed alongside of bacillus cadaveris, producing whiter and less granular growth. It is larger and more slender than bacillus cadaveris, and forms spores which resist the action of 80° C. for thirty minutes. It is non-motile and strictly anaerobic. It is apparently non-pathogenic, its subcutaneous injection of guinea-pigs produce edema and abscess with very foul odor.

Autopsies upon Other Than Yellow-Fever Cadavers.

As mentioned in the beginning of this report, the writer endeavored to obtain permission to perform autopsies upon cases dead from other diseases than yellow fever, but the amount of work which came upon us at the early part of the summer very materially prevented the possibility of research in other channels. As it is, numerous cultures were made at the city morgue from cases of sudden death. Some of the bodies were allowed to remain on the table for too long a period of time to be of any use as bacteriological material, but in most instances the autopsy was made a few hours after death. The number of organisms isolated is greater than we would care to even outline here and as the work was undertaken for the sole purpose of finding bacillus icteroides, if present, no time was wasted upon any single species that showed the slightest discrepancy with any of the well-known characteristics of this organism. It was present in one of them. Besides the sudden death cases, cultures were made from eight other autopsies; the bacillus icteroides of Sanarelli was found in two of them, making in all three cases in which there was not the barest possibility of yellow fever infection.

They were as follows:

February 13, 1899.—At the city morgue, the body of a white man about thirty years of age, had died as a result of stab wound of the abdomen. Upon opening the peritoneal cavity it was found to contain a large quantity of purulent serum, the intestines being matted together with plastic exudate. Cultures were made from the liver and spleen only, upon six agar slants. On the following day three tubes were discarded, the degree of contamination did not warrant the time that would be required in isolation and classification; from the other cultures, two from the liver and one from the spleen, three organisms were plainly isolated: (1) Bacillus coli communis, (2) bacillus icteroides, and (3) staphylococcus aureus. The patient was a native and had been perfectly well until two days before, when he was stabbed.

February 15, 1899.—Patrick Smith, private, Company B., 8th U. S. Infantry, died at 11 A. M. The autopsy was performed by the writer at 1:30 P. M., in the presence of Drs. Wasdin, Geddings and Menocal of the Marine Hospital Service, Majors Gorgas, Davis and Ducker of the Army, Assistant Surgeon Truby, who treated the man during his illness, Dr. Porto, director of the city morgue, where the autopsy was made, and Drs. Cordova, Carvallo and Castro, the last two gentlemen being the coroners on duty at the time. Patrick Smith was admitted to the Regimental Hospital at La Punta on February 4th, complaining of having felt sick for about a week, which he attributed to malaria, having suffered from this disease in Santiago the previous summer; he was quite anemic, there was some albumin in the urine, the temperature kept around 103° F., the pulse was always high, above 100 beats per minute. During his illness he had liquid stools, yellow, and marked adynamia; no vomiting took place nor was there any epigastric tenderness except upon forcible pressure. We saw the case for the first time on the morning of the 10th, as it was suspected that he was suffering from yellow fever; on the 11th we took blood from the ear-tip and planted it with the results already mentioned above. (See ear-tip blood.) We again saw the patient on the 12th and every day afterwards until his death, eleven days after admission to the hospital. We never believed the man had yellow fever, although we admitted that the case was obscure until later, when we learned that there was a slight epidemic of typhoid fever in Company B.

We take special pains in describing this case, because in the "Report on the Cause of Yellow Fever" Drs. Wasdin and Geddings give this as a typical (!) yellow fever case of "serious type and prognosed death within forty-eight hours" (loc. cit., p. 14), which prognosis was realized five days afterwards.

The lesions encountered were as follows (taken from our notes): The body was emaciated, and its color that of the cadaver of anemic individuals; the gums were pale, the sclerotics had a slight yellowish tint. There were hypostatic congestions on the neck, trunk and extremities; on section, the tissues were found very dry. The liver was very much enlarged, of a purplish hue, with a hard, glistening, smooth surface, and absolutely no evidence of fatty degeneration, a congested hyperplastic liver such as is found in autopsies upon chronic malarial cases. The cut surfaces were smooth and bled freely. The spleen was the size of a man's head, hard, congested, of an ashy-blue color. If these two lesions alone had been met with, the case would have been declared a victim of the malarial parasite; they were typical, except for the great extent to which the organs were involved. The stomach was slightly dilated; the mesenteric vessels rather full; it contained absolutely nothing but undigested food (milk) and mucus; the mucous membrane was pale except at the posterior surface, where there was some hypostatic congestion; it was also edematous and easily torn in manipulation; there was no submucous extravasation nor any sign of any vascular disintegration. The duodenum contained the same liquid food; the mucous membrane was pale, except at

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the dependent portion where there occurred hypostatic congestions. The small intestine was examined throughout its whole length; at its lower portion it contained semi-solid fecal matter of a pale-yellow color. At short and regular intervals, corresponding with the intestinal coils, there were areas of hypostatic congestion which were thought by some one present to have been submucous extravasations, but upon section were found to be as above stated, purely congestive areas which probably began to form long before the patient's death, he having been in an adynamic condition for several day previous to the fatal termination of his disease. The mucous membrane was puffy and particularly near the ileocecal valve; Peyer's patches, although visible, cannot be said to have been enlarged; there were a few swollen mesenteric glands in this region.

The colon contained the same pale-yellow feces, and aside from a friable eroded mucous membrane showed no other lesion of apparent importance. From the esophagus to the anus no evidence of the slightest free hemorrhage was encountered. The kidney was slightly enlarged and congested, the seat of a subacute interstitial nephritis. The capsule was not adherent. The pericardium contained a small amount of serous fluid. The heart contained much blood, the walls were rather soft, but there were no evidences of fatty degeneration. No engorgement of its vessels was present, the vasa vasorum at the base were not enlarged; the endocardium was normal; a weak heart and nothing else. The lungs were somewhat edematous and presented hypostatic congestion posteriorly. A diagnosis of anything else than yellow fever could have been made from the findings at this autopsy; none of the gentlemen present, except the representatives of the Marine Hospital Service, with the evidence placed before them, had any doubt in this regard; Dr. Wasdin insisted that the lesions of the intestines were extravasations and not hypostases; Dr. Geddings was doubtful; Dr. Menocal said nothing.

Our opinion was that the man had died of an enterosepsis of undetermined character, very materially aided by a chronic malarial infection, and that the bacteriological cultures would undoubtedly throw some light on the actual cause of death.

At the risk of lengthening this report to a tiresome extent, we beg to quote from the evidence of some of the gentlemen who saw the patient during his illness and at the post-mortem.

Lieut. A. E. Truby, Assistant Surgeon, U. S. Army, was in charge of the case at the Regimental Hospital; he writes us: "In my opinion he (Patrick Smith) did not have yellow fever. He had a marked amount of albumin in the urine, present from the beginning to the end of his sickness and in about the same proportion. He had been a sufferer from chronic malaria since the campaign in Santiago. During his last spell of sickness he had all the signs and symptoms of typhoid fever. Another case from the same Company died on the hospital ship "Missouri;" the autopsy showed marked typhoid ulcers and evidences of chronic malaria. The symptoms in both cases were the same. In all cases of typhoid fever in men who have been in this hospital, who were still suffering from the chronic malaria contracted in Santiago, we have found albuminuria. Smith had a pulse rate above 100 per minute throughout, and a temperature ranging around 103° F."

Major W. C. Gorgas, Surgeon U. S. Army, writes: "I observed P. Smith, 8th Inf., for about a week before he died. During his life I considered the case suspicious with possibilities in favor of yellow fever. At the autopsy I was convinced that the case was not yellow fever. I saw nothing in any of the organs that resembled yellow fever. There have been quite a number of cases of typhoid fever from this Company, two of them presenting symptoms very much like Smith's. Seven of ten medical men present at the autopsy gave their opinion against yellow fever."

Major Orlando Ducker, Surgeon, U. S. V., writes: "I first saw the case, with Major J. G. Davis, on February 9th, 1899 . . . . it was then the 8th day of the soldier's illness. Temperature 103.5° F.; pulse, 132; respirations, 29. My diagnosis was pernicious malaria with typhoid complications . . . . I saw the case two or three days later; there had been no change; temperature 102.5° F.; pulse, 124; respirations, 28. There was increased tympanites, increased sensitiveness over the bowel, but not so over the duodenum. The yellow tinge of the skin not so deep. A few days thereafter, I was present when you made the autopsy. The skin was less yellow than during illness . . . . I believe had the patient lived a few days longer, there would have been sloughing and perforation of the bowel. The liver was a typical malarial one, there was no yellowish or steel-colored hue. From the history of the case and from examination as well as from autopsy, I can make no other diagnosis than pernicious malaria with typhoid complications and I believe these two were the sole cause of death."

Dr. E. M. Porto, Director of the City Morgue, writes: "Neither from the color of the body, so characteristic in yellow-fever cadavers, nor from the pathological lesions found, could I suspect for a moment that we were dealing with a yellow-fever case; the predominating hyperplasia of liver and spleen indicated a malarial infection." (Translation.)

Dr. S. de Castro, one of the coroners on duty, writes: "I am inclined against the case being yellow fever; it lacked the icteric tint and the hemorrhages or blood infiltrations of stomach and small intestine. The spleen and liver indicated paludism." (Translation.)

Dr. Frederico Cordova also believes the lesions were mainly malarial; he writes: "The color of the skin was not of that distinct yellow which is found in yellow-fever cases, neither did the liver

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by its dark color and firm consistency have any similarity with the changes regularly found in that disease; there was also total absence of the hemorrhagic extravasations so typical in yellow fever." (Translation.)

Microscopic examination of the blood made on February 11th, at the Laboratorio Histo-Bacteriologico revealed the presence of malarial parasites and pigmented leucocytes.

We found bacillus typhosus and bacillus icteroides in almost pure cultures from the spleen; bacillus typhosus in pure culture from the kidney; colon bacilli; bacillus icteroides and a non-motile bacillus from the blood of the bacillus only from the blood of the heart. With regard to the presence of bacillus icteroides and the influence it may have exerted in this case, we beg to refer to the "Report on the Cause of Yellow Fever;" it says: "At this visit (February 10th) blood was taken from the ear-tip (on the sixth day of the disease), and when plated gave us numerous colonies of bacillus icteroides" . . . . (page 14). "On the 12th from the blood taken a serum test was made in the dilution of 1 to 20, with a bouillon culture of bacillus icteroides and there was not the slightest influence of either motion or agglutination in three hours. Nor could we get a reaction at any time. This organism we have used very extensively in further work on animals, the resulting necropsies always showing the most characteristic changes in the liver, stomach and intestines."

From the above paragraphs it will be seen that it is claimed that bacillus icteroides was present in large quantities in the blood of the patient on the sixth day, yet on the eight day it fails to be influenced by the serum of this same individual, even after three hours (!) when normal serum would certainly tend to, at least temporarily, immobilize or agglutinate bacillus icteroides. This confirms us in our belief that bacillus icteroides, if present in the blood of Patrick Smith as early as claimed by Wasdin and Geddins, did not exert any influence upon the severer typhoid-malarial symbiosis from which he was suffering. Bacillus icteroides in this instance ran hand-in-hand with the colon bacillus and the other micro-organisms that were isolated.

July 14, 1899.—Benjamin Goodman, civilian, twenty-three (?) years of age, died at 1 P. M.; autopsy at 5 P. M. The man had been suffering from rheumatism for over a month; was treated for malaria up to one week before his death; lately he had dysentery and had been prostrated in his store in Santiago de Cuba, unable to attend to his business (saloon-keeper); he had not had medical attention for three days, when he was found in a dying condition in his room. The city being at the time strictly under quarantine, the body was taken to the Yellow Fever Hospital for the purpose of ascertaining the cause of death.

On autopsy, it presented the following, taken from our notes: "The body is that of a man about forty-five years of age, in rigor mortis, very pale, there is much abdominal fat; hypostatic congestion on the dependent portions. There is no icterus. The mesentery also contains much adipose tissue. The liver is large, of a dark, mottled ashy-brown color, the surface very rough, cirrhotic, with areas of fatty degeneration; cut surfaces granular and moist; the liver of chronic alcoholism. The spleen is of normal size, congested. The stomach is very much dilated, to three times its normal size, the walls are very thick; it contains a large quantity of clear gastric juice and mucus; the mucous membrane is thickened, edematous; the peptic glands are inflamed and enlarged. The duodenum is congested, and contains a small amount of bile. The small intestine is generally inflamed, the seat of an acute enteritis. The colon contains liquid feces; the mucous membrane is swollen and eroded, particularly at the descending portion. Some mesenteric glands were enlarged. The kidney is the seat of a chronic parenchymatous nephritis; the capsule is adherent. The abdominal cavity contains a quantity of serous effusion. The pericardium is tough and contains a small amount of serum. The heart is very much hypertrophied, but soft and in diastole; it contains very little blood. The endocardium is roughened by vegetations; there are calcareous deposits in the auriculoventricular and aortic valves and retraction and insufficiency of the mitral and aortic. The aorta is in an atheromatous condition. The lungs are edematous, on section giving large quantity of serous fluid. The pleuræ are smooth and apparently normal.

Cultures made from the liver of this case developed bacillus icteroides in company with bacillus coli, and a pathogenic variety which was accidently sterilized and could not be studied further.

The three cases above described *were not yellow-fever cases,* and we offer them in refutation to the statement made that bacillus icteroides is not found except in yellow fever.

(To be continued.)

CLINICAL MEMORANDUM.

ATRESIA VAGINÆ; SOLID UTERUS; HEMATOMA OF LEFT OVARY.

BY H. J. GARRIGUES, M.D.,
OF NEW YORK;
GYNECOLOGIST TO ST. MARK'S HOSPITAL.

M. B., American, twenty years of age. Has never menstruated. Every four weeks for the last four years she has had severe pain radiating from the back, around the abdomen to the hypogastric region, lasting a week. Epileptic convulsions, with complete loss of consciousness, foaming at the mouth, and biting the tongue, preceded and often followed the molimina. The patient's intelligence has suffered, as evinced by slowness in answering questions.

Vaginal examination showed a normal vulva

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and a vagina two inches deep, without communication with the uterus. Between the vagina and the cervix there was half an inch of soft tissue. Above that was felt a large, round mass in which a hard and soft portion could be distinguished. On account of her epileptic seizures and impaired intelligence, and because such an attempt had been made in vain by another gynecologist, I desisted from trying to make a vaginal connection.

Laparotomy (October 25, 1899) revealed a uterus of about normal size and shape, but a little thick in the antero-posterior diameter. The right ovary was slightly enlarged, and showed a fresh corpus luteum filled with blood. The right tube was normal. The left tube was thickened and bound to a large cyst, which nearly filled the pelvis and was adherent to its walls and to the intestine. I removed the uterus, right tube and ovary in one piece by supravaginal amputation, and then extirpated the cyst. This proved to be the left ovary changed into a hematoma, containing ten ounces of inspissated, chocolate-colored blood.

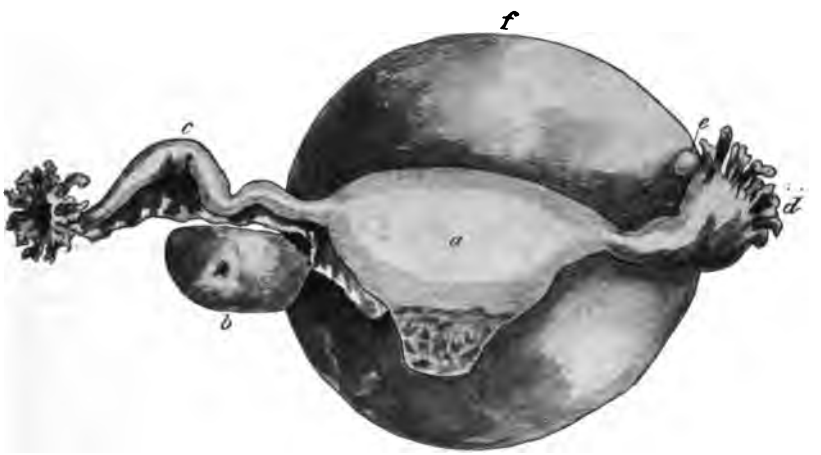
After the operation the patient suffered much from insomnia and had some pain in the left side of the pelvis, where a small swelling was felt around the stump of the infundibulo-pelvic ligament. She had a slight rise in temperature. On November 11th—seventeen days after the operation—according to the statement of the house-surgeon, three pints of old blood were evacuated through the vagina, at the top of which was felt a small opening. A sound entered through it into a large cavity extending in the direction of the right iliac fossa, where she had some pain. The fluid coming from the opening was old blood mixed with a small amount of pus. I dilated the opening under ether and introduced a double drainage-tube with cross-bar. The patient has been entirely relieved of her molimina, but has had several epileptic seizures during her stay in the hospital and after leaving it.

After being emptied, the sac formed by the ovary contracted to the size of a hen's egg, showing what an enormous pressure the bloody contents had been under. The inspection of the inside of the tubes showed a normal mucous membrane. The wall of the left tube was thickened. The uterus had no trace of a canal.

A solid uterus of normal size and shape is very rare, perhaps unique. As a rule this condition is only found when the uterus is represented by a more or less formless mass, and even such rudimentary uteri are extremely rare.

The large hematoma must be looked upon as an internal vicarious menstruation. There being no uterine cavity, the menstrual congestion must have found a weak point in the left ovary, and during four years blood had accumulated in it, transforming it to a bag, which nearly filled the cavity of the pelvis.

FIG. 1.



A, uterus; *b*, right ovary with recently ruptured Graafian follicle; *c*, right tube; *d*, left tube; *e*, small cyst; *f*, left ovary converted into a hematoma.

716 Lexington avenue.

MEDICAL PROGRESS.

Mucinemia in Thyroprivia.—In order to determine the nature of the substance which causes the autointoxication in cases where the thyroid gland is absent (myxedema, cretinism) or where it has been removed by operation, I. Levin (*Med. Record,* Feb. 3, 1900) has made several experiments on rabbits. Believing that the accumulation of mucin in the blood explains, to a great extent, at least, the symptoms of this condition he injected a solution of mucin in one-per-cent. sodium carbonate into eight normal and nine thyroidectomied rabbits. The former remained healthy while only one of the latter survived. It was also shown experimentally that much in-

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jected into the blood of a dog uniformly caused a fall of blood pressure.

Surgery of Typhoid Perforations.—W. W. Keen (*Jour. Am. Med. Assoc.*, Jan. 20, 1900) says that operation is the procedure of choice in treating typhoid perforation, except in the few patients whose condition is such that recovery is hopeless. Patients have been operated on three times and yet recovered. Age seems to affect the recovery-rate. Thirteen under fifteen years of age gave nearly 54 per cent. recoveries; 43 from 15 to 25 years of age, 9.3 per cent.; 43, 25 to 35 years of age, 23 per cent., and 20 cases over 35 years, 30 per cent. The female sex has a higher percentage recovery, 42 per cent. in 20 cases, whereas in 106 male cases only 18 per cent. recovered. Perforation in the fourth week has given 33 per cent. recovery, while in the third week only 16 per cent. recover. The best time to operate is as soon as possible after perforation, but not during profound shock. The statistics show that operation during the second twelve hours has given the best results up to this time. While waiting for reaction from shock peritoneal infection is increasing. The avoidance of both these evils depends on advance in two directions, the possible diagnosis of impending perforation, and exploratory operation under cocaine. The use of cocaine instead of a general anesthetic is the most important recent advance in technic. The incision under cocaine is best made in the right linea semilunaris or through the rectus. The perforation should be sought in the ileum, in the cecum and appendix, or in the sigmoid. The perforation should be closed, without paring the edges, by a mattress suture, and if necessary, with a superimposed continuous suture. Thinned areas threatening to perforate should be inverted and sutured. With extensive or adjacent perforations resection and anastomosis may be required. Drainage is usually required, but if the case is not of too long standing and the peritoneum can be well cleansed, it is better to fill the cavity with salt solution and close without drainage. Speed is important, but not at the expense of careful work.

Syphilis from Dental Instruments.—Wm. L. Baum (*Jour. Am. Med. Assoc.*, Jan. 27, 1900) reports six cases of syphilis, in five of which the infection is attributed to wounds from dental instruments, and in the sixth case to an instrument (tonsillitome) in the hands of a physician who never boiled his instruments. He divides syphilitic manifestations in the mouth into three kinds: (1) The initial lesion, or chancre, which may appear on the lips, tongue, tonsils, or fauces; (2) secondary lesions, such as erythematous or papular syphilides, which occur on the velum, the palate and the tongue; (3) tertiary symptoms, such as gumma, which may attack the tonsils, uvula, soft palate, or tongue. The writer gives a description of the different lesions as they appear when found in the mouth. All dentists should have a knowledge of the characteristic appearance of the different syphilitic lesions and should also make a practise of boiling all their instruments.

Use and Abuse of Poultices.—The injudicious employment of the poultice has brought it into such general disrepute that its benefits are now oftentimes lost sight of and its use discarded. S. E. Earp (*N. Y. Med. Jour.*, Feb. 3, 1900) points out that the active principles of the poultice are moisture and heat and hence it matters little what they consist of except so far as their capability of retaining heat is concerned. They must be generous in size, applied hot, and frequently changed. In general it is better to use antiseptic fomentations upon open wounds, but the charcoal poultice is of considerable value as a deodorant in some cases of foul ulcer. The virtues of a poultice are seen in its power (1) to relieve congestion, (2) to promote absorption, favor resolution and hasten suppuration, (3) to diminish tension, (4) to soften incrustations, (5) to stimulate healthy granulations and (6) to perform the office of a deodorant.

Laryngeal Complications of Typhoid.—Peculiar affections of the larynx during the course of typhoid fever have been reported rarely and have been classed as (1) edematous laryngitis, (2) ulcerative laryngitis and (3) laryngeal perichondritis. R. M. Marsden (*Med. Chronicle*, Jan., 1900) has described three cases, one of which belongs to the first class, the other two ending as a perichondritis, which may have been secondary to ulceration. The peculiarities of the cases were that they came on late in the disease, with trivial symptoms of cough and hoarseness until the disease was far advanced, with no discharge of pus or cartilage, but resulting in such marked thickening in and around the vocal cords that the obstruction demanded tracheotomy in each case. The after-treatment of persistent and systematic dilatation was tried with only slight success, the fixation of the cords preventing much improvement in phonation. Where the arytenoids and cords are movable and when a cannula has been introduced, the patient can speak with a fair voice, it is well to persevere with dilatation.

Nephrolithiasis treated with Glycerin.—In the *Medical Chronicle* (January, 1900) A. Hermann reports the use of glycerin in 115 cases of nephrolithiasis with favorable results in 60 per cent. of the patients so treated. In 15 cases concretions were passed with improvement of symptoms while in 25 cases alleviation of symptoms occurred without the passage of any concretions. In order to explain the favorable action of glycerin it is supposed that the effect is physical rather than chemical since no solvent action can be demonstrated. In addition to acting as a lubricant to the urinary passages, it increases the specific gravity and viscosity of the urine and tends to change the position of the concretions in the pelvis of the kidney. The dehydrating power of glycerin is pointed out as a cause for the voiding of quantities of pus and mucus after its administration. The dose is from one to four ounces dissolved in an equal amount

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of water and taken between two meals and repeated two or three times in an interval of several days.

Seasickness.—Seasickness is defined by J. Carlisle De Vries (*Indian Med. Record,* Calcutta, Dec. 27, 1899) as "a peculiar functional disturbance of the nervous system, produced by shock resulting from the motion of the ship." He does not consider it a disease of the stomach or alimentary canal, but clearly a functional disease of the central nervous system. The disturbance is divided by him into four stages, *viz.,* depression, exhaustion, reaction, and convalescence. The symptoms begin with a general depression followed by giddiness, nausea, vomiting, and derangements of the bowels and urinary secretion. An abnormal appetite often precedes the stage of depression. As to the treatment, sometimes a deep inspiration simultaneous with the rise of the vessel, followed by expiration as it descends, will ward off seasickness. The writer has not seen any good results from bromide treatment. To lessen the likelihood of an attack the bowels must be opened the day before embarking by calomel, sodium phosphate, or a saline purge, and about twenty grains of sodium bromide taken at about 7 A. M. the day of sailing. One should remain on deck throughout the voyage and partake freely of mineral waters. When one has not taken this preliminary treatment aromatic drinks, lemonade, champagne, and ginger ale prove of great value. A horizontal position should be maintained, and a general plain diet, but no cold food should be taken. Give brandy or wine if stimulation is needed. If confined to stateroom a spinal ice-bag relieves the spinal congestion. In obstinate cases nitrate of amyl given in full doses on the first appearance of epigastric distress is beneficial. When everything else fails, morphine may be given to relieve the retching, but should be given carefully. The writer's experience was gained in 58 transatlantic voyages.

Indigestion and Pulmonary Disease.—Under normal conditions the small intestine is practically free from micro-organisms, while the large intestine is not. After a brief summary of what occurs in normal digestion C. R. Burr (*Bost. Med. and Surg. Jour.,* Feb. 1, 1900) says that it is evident that autointoxication may result, if a departure from the normal occurs in either the intestinal tract or the liver. If indigestion occurs in the intestinal tract the small intestine becomes a veritable culture tube for micro-organisms, and they and their products pass to the liver along with other imperfect products of intestinal and gastric digestion. The result is that the liver-cells are poisoned and do not perform their duty, and as a consequence the general circulation is flooded with poisons, and autointoxication is established. Again, if a person has an insufficient, or functionally weak liver, which often fails in its duties and permits an undue leakage from the portal to the hepatic vein, the same condition of autointoxication will obtain. The blood purifies itself through the skin, lungs, and kidneys, the vehicles being the sweat, the breath and urine. If a case of toxemia is severe enough all these eliminating organs may present acute symptoms. In the lungs, congestion, edema, pneumonia, or bronchitis occurs. The changes in these organs are more chronic in character if the toxemia is less severe, but longer continued. Few organs of the body escape the effects of a general toxemia, but in addition to the three organs mentioned the nervous system and the blood seem to suffer the most. A condition of hemoglobinuria develops in the blood, and organic changes may occur in the nervous system if the toxemia lasts long enough. The medulla and the nerves issuing from it are especially affected by toxalbumins. One of these nerves is the pneumogastric, which is intimately associated with the respiratory center. The writer has already pointed out that there is a paresis of both the phrenic and pneumogastric nerves in pulmonary tuberculosis. In short, repiration may be embarrassed by toxalbumins as well as toxins and ptomaines, no matter how introduced into the system. The action of the diaphragm being interfered with, the capillaries are not emptied and a condition of stasis ensues. Because of this stasis the excrementitious principles carried by the venous blood weaken or paralyze the epithelial cells of the pulmonary alveoli and the endothelial cells of the capillaries, so that they do not repel microbic infection from without. The writer cites a case showing how the lungs can be infected from within. In this case the typhoid bacilli went from an infected intestine, through a paretic liver, into the general circulation, and thence to the lungs. Thus autointoxication arising from simple intestinal indigestion affects the lungs so that they not only cannot repel microbic infection from without or within, but rather invite it.

In croupous pneumonia the coagulation necrosis is limited to the epithelial lining of the alveoli, therefore, it would seem that the epithelial cells were first infected, that is, that the bacteria were inhaled. On the other hand, the coagulation necrosis of pulmonary tuberculosis attacks the capillary network of the lung. The exudate occurs on the outside of the alveoli. The bacteria, therefore, come to the capillaries by way of the general circulation and in many cases without doubt from an infected intestine. With these facts before one Burr thinks some changes might be advantageously made in the traditional treatment of pneumonia and pulmonary tuberculosis. In these diseases great care should be given to the condition of the digestive tract. The intestines should be evacuated and disinfected. Intestinal alteratives are indicated, and no drugs are better than calomel and podophylin. They are best given in small and repeated doses. The inhalation or ingestion of oxygen is of great value. In pneumonia in the first stage, that of hyperemia of the capillaries, the writer uses, as an astringent to contract the capillaries, the soluble phosphate of iron in small and repeated

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doses. Tincture of aconite seems to aid it. When hepatization has occurred sodium chloride and pancreatin hasten the digestion of the pneumonic exudate. The writer injects a pint of normal salt solution with a few grains of pancreatin in it, well up into the sigmoid flexure. The sodium chloride exerts an antiseptic influence and the pancreatin may assist in the digestion of the pulmonary exudate. Fresh air and the cure of intestinal indigestion will do much to improve the condition of a patient with pulmonary tuberculosis, and if begun early enough a cure in some cases may result.

Carcinoma of Ascending Colon.—W. McA. Eccles (*Brit. Med. Jour.*, Jan. 13, 1900) records two cases of carcinoma in this comparatively rare site. The first case entered the hospital suffering from acute intestinal obstruction. A median exploratory incision revealed an annular carcinoma of the ascending colon. Through an incision in the linea semilunaris the growth was excised and an artificial anus established in the wound. Death resulted from shock. In the second patient a moveable tumor was felt in the right side. The growth and considerable colon on each side of it were lifted out into the abdomen and prevented from slipping back by sutures placed in the deeper parts of the wound, which was then partially closed, sterile dressings applied, and the patient returned to bed. Fecal circulation continued through the extra-abdominal colon without difficulty. On the eight day, without an anesthetic, the growth was excised and end-to-end anastomosis done, extraperitoneally. The gut healed and gradually retracted into the original wound, and recovery occurred without incident. Success in colectomy depends upon operating before acute obstruction occurs. When there is sufficient mobility, eventration followed by later excision is the safest procedure. If there is acute obstruction, eventration with formation of an artificial anus relieves the immediate symptoms and avoids adding the shock of colectomy to that of the obstruction. The growth can be excised at any later time without an anesthetic. Where the growth is fixed to the parietes, the best procedure is to carry the fecal circulation around it by an ileocolic anastomosis.

Gastrectomy.—G. C. MacDonald (*Phila. Med. Jour.*, Feb. 3, 1900) says that no operation requires more careful selection of cases, and more careful preparation for the strain and shock of operation. The patient must be neither very old, thin, nor cachectic. The heart especially must be in good condition. Patients who have used alcohol even to slight excess, and those who have been subjected to constant nervous strain are not suitable. Renal or hepatic disease contraindicates the operation. The stomach should be made as nearly aseptic as possible. The operating-room should not be cooler than 80° F., the patient should be swathed in cotton and placed on hot-water bags to prevent loss of heat. At least four trained assistants are necessary to the rapid, smooth performance of the operation. The stomach is exposed through a long median incision, its attachments divided from cardia to pylorus, and it is then resected. The esophagus and duodenum are then joined by a Murphy button, or if the cut ends cannot be easily approximated, the duodenum is closed, and the esophagus anastomosed with a convenient portion of jejunum. The wound is then closed and the patient put to bed, which must be well warmed. Since both vagi are cut and the solar plexus much handled, marked nervous disturbances occur; there is considerable shock, and the heart gallops because of the uncontrolled action of the sympathetic. Besides the general stimulation for shock, one must steady the heart's action by digitalis as otherwise it stops work inside of three days from sheer exhaustion. After twenty-four hours liquids may be given by mouth, and as soon as the button is passed, solid food may be given. The causes of failure have been: Poor general condition, the patient dying either on the table or soon after operation; the heart has galloped to exhaustion in spite of treatment and leakage and peritonitis from imperfect coaptation of esophagus and duodenum.

Treatment of Neurasthenia.—The close contact of physician with patient is of extreme importance in the cure of neurasthenia according to O. Dornblüth (*Münch. med. Woch.*, Jan. 16, 1900). A thorough physical examination will awaken confidence and prevent errors of diagnosis and the patient should be informed of the true character of his disorder. The most important rules to keep the patient in bed and absolutely at rest for from one to six weeks, depending on the severity of the case. Where this is impossible, the recumbent posture should be assumed during all leisure moments. Strict dieting is not necessary; even coffee and tea may be allowed, but alcohol is to be strictly interdicted. Even when nervous dyspepsia is present the regular plan of feeding five times daily at intervals of two and a half to three hours is admissible, but when great irritability of the stomach dominates the clinical picture, the diet should be similar to that for gastric ulcer, or solid and liquid food alternately every one and a half hours may be given. To quiet the nervous system the best results were obtained by applying cloths wrung out in water at 59° F. to the abdomen and covering these with flannel, or by giving a bath at 81-88° F. with the tub but half filled, for four minutes. Massage is not to be resorted to but general faradization with weak currents is excellent. As for drugs, a depreciated condition of the blood demands iron, preferably in organic form, while for the severer manifestations of the disease codeine acts almost as a specific. In selecting sanatoria, especial care is necessary to choose such which really meet the indications.

Diagnosis of Gastric Ulcer.—F. H. Murdoch (*Phila. Med. Jour.*, Feb. 3, 1900) says that the most important point in the diagnosis of gastric ulcer is to think of ulcer. He reviews the symp-

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toms of the disease and cites some cases. Hemorrhage and the peculiar epigastric pain are the most important. He lays special stress on the importance of the circumscribed tender spots found in front over the stomach and the corresponding tender spot in the back to the left of the twelfth dorsal vertebra. He says that if, in a patient with dyspeptic symptoms, a small circumscribed spot of tenderness in the epigastrium is found it is justifiable to make a diagnosis of gastric ulcer, whether there has been pain or hemorrhage or not. This tender spot, however, must be constant, not present one day and absent the next. This tenderness lasts for months sometimes and it is not safe to give solid food while it is present. General tenderness over the stomach is uncommon.

Orthoform promptly relieves the pain of gastric ulcer and because of this is a valuable aid in making a diagnosis. The writer concludes that in patients with dyspeptic symptoms, gastric ulcer may be diagnosticated positively in one of three ways: (1) By the occurrence of hemorrhage from the stomach; (2) by the presence of severe pain relieved by orthoform; (3) by discovering a small, constant, circumscribed spot of tenderness in the epigastrium with or without a corresponding tender spot to the left of one of the lower dorsal vertebræ.

Acute Serous Synovitis.—P. Hoffmann (*N. Y. Med. Jour.*, Jan. 27, 1900) speaks of the compression treatment of acute serous synovitis. The principle is to fill all depressions about the joint with cotton and then obtain firm, even pressure by means of adhesive plaster strips, which should extend several inches in each direction from the joint. The absorption of the effusion is very rapidly accomplished and at the end of the first day the dressing must be renewed on this account. Flexion, which is usually present where the effusion is considerable, rapidly disappears. The other advantages of the treatment consist in the light weight of the dressing, the immediate relief from pain which it affords, and, most important, it permits the joint-functions, motion and weight-bearing, without injury. As a rule the patients may use the limb in any way not causing pain. The time required for complete recovery varies from one to three weeks. The firm, even pressure of the plaster diminishes the lumen of the engorged vessels, thus relieving congestion, relieves the tension on the overstretched ligaments and capsule, thus relieving pain, and hastening the process of absorption.

Plague at Singapore.—An interesting light has been thrown on the vagaries of the plague as regards its transmission by sea, by a detailed report of the cases that have occurred at Singapore by M. F. Simon (*Lancet*, Jan. 20, 1900). The geographical position of Singapore, between India and the West, on one side, and China and the far East on the other, has given the place the position which it holds as a very large center of trade, and renders it especially exposed to danger of plague when that disease is prevalent in the countries from which so much trade and so many immigrants come, and yet very few cases of plague have occurred, none seem to have spread the infection, and many "doubtful cases" seem to have recovered before the disease reached its height. We are led to conclude from the care with which the report has been prepared, and the logical and careful treatment of all doubtful problems, that the plague is not readily transmissible by sea to countries near the equator. It seems to be true in many cases that when an infected patient leaves the country in which the plague is endemic and travels towards the central tropical zone the disease has a tendency to abort. The bacilli seem to disappear, or become modified or inert, leaving the patient to gradually lose the fever and to recover from the glandular affection. The facts bear out the statement that the plague does not spread on shipboard when the patients are removed from endemic environment; and we are encouraged to believe that the danger of conveyance of infection by cargo and baggage for any distance by sea is practically nil.

Etiology of Rectal Stricture.—Acquired strictures of the rectum are much more common in women than in men. Reuben Peterson (*Jour. Am. Med. Assoc.*, Feb. 3, 1900) discusses the etiology of rectal strictures in women under two heads: (1) Those in whom the caliber of the rectum is diminished by pressure from without, organic changes in the walls being secondary; (2) those in whom the rectal walls are primarily affected, the organic changes causing a diminution of the lumen of the rectum. In the cases of the first division the pressure from without is due to a tumor in the pelvic basin, or it may be to a pelvic abscess, or more often to suppurative disease of the appendages. A case is cited in detail illustrating a stricture due to pressure from the latter cause. Under 2 are those cases in which the stricture is due to an inflammatory process in the walls of the rectum itself. An inflammatory process with an increase of connective tissue may lead to contraction and stricture of the rectum. The causes of this inflammatory process, and, therefore, of the stricture, the writer says, may be trauma, dysentery, gonorrhea, tuberculosis, or syphilis. Any trauma to the mucous membrane of the rectum, causing loss of substance and ulceration can result in a stricture. Unskilful operations on the rectum or any resection of the rectum is apt to be followed by stricture. It has been thought that in dysentery, marked by ulcerative processes in the rectum, a stricture might result from contraction following the invasion of the submucosa and muscularis by the ulcerative process. This is probably a very uncommon sequence of dysentery, although a number of cases have been reported. Gonorrhea of the rectum occurs, but while it may cause rectal stricture, it is still far from being proved. Tubercular ulceration and stricture of the rectum have been observed, but more especially as following dysen-

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teric ulceration. A careful examination as to the existence of tuberculosis as a causative factor should be made in each case. There is no doubt that syphilis exists in a large proportion of those who have rectal stricture, but whether it is an active or frequent cause of stricture, and if so, in what manner it brings about the condition of rectal stenosis, are questions about which there is a great diversity of opinion. Some observers think that syphilitic strictures follow the breaking down of gummatous deposits in the rectal wall. Others, among whom the writer seems to be, think that the condition is due to the inflammation caused by chancres but not to the chancres themselves. Peterson cites a case in which, although there was no history nor evidences of syphilis, the microscopical findings in nine inches of the rectum removed by operation would lead one to think that such was the cause. Gross examination of the segment removed showed a normal mucosa, which proved that the disease began in and was confined to the deeper layers and hence could not have been caused by chancroid, gonorrhea, or trauma. On the whole the etiology of rectal stricture does not seem to be well established in the greater number of cases. Numerous citations from different investigators appear throughout this paper, and a full bibliography on the subject is given.

Uterine Fibroid.—F. H. Champneys (*Lancet,* Jan. 20, 1900), basing his statements chiefly on the records of five London hospitals, says that the mortality after operation for fibroids is 17 per cent., while the mortality of fibroids apart from operation is 3 in over 2,000,000, or a little over .0001 per cent. In the natural course of events, therefore, fibroid tumors do not cause death, and, therefore, it is not necessary to remove them. Whether or not their removal is desirable depends on the merits of each case. Severe recurrent bleedings may render surgical relief necessary. Severe pain also calls for relief. Dangerous pressure symptoms are usually those causing retention of urine, and call for immediate interference. Rapid growth is often an indication for interference especially when accompanied by bleeding. A cystic fibroid grows persistently and should be removed. Malignant degeneration, although often talked of, is very rarely seen. There is a tendency at present to remove fibroids more freely. Operation is unjustifiable unless the fibroid is dangerous to life, or destructive of the patient's comfort and happiness, in which case the dangers of operation should be explained and the patient allowed to choose.

Huntington's Chorea.—Huyghe (*Le Nord Médical,* Jan. 15, 1900) describes minutely a case of this rare nervous disease affecting a man of thirty-nine years. The maternal grandfather, the mother, and an elder brother were affected in the same way at about the same age, while some sisters of younger age were still free from the disease. Beginning with a staggering, somewhat spastic gait, the legs, followed successively by the arms, head, and trunk, became subject to irregular, involuntary incoördinated, and purposeless movements. These became more energetic when attention was directed toward the patient or when voluntary motion was attempted; yet no matter how violent, they were never followed by rigidity or fatigue. They could be suspended momentarily by the will, and in sleep ceased entirely, yet under excitement were very marked. Speech was explosive, somewhat scanning, and there was slight tremor of the face. Sensation was normal, the patellar reflex present, no ankle-clonus, but there was abolition of the corneal and laryngeal reflexes. The intelligence was poorly developed, thought slow, and he had a tendency to a fixed idea, yet was cheerful and sociable. Later on he developed a condition of dementia.

Local Anesthesia.—A. E. Barker (*Lancet,* Jan. 20, 1900) reports fifty-three cases, including radical cure of hernia, resection of intestine, gastro-enterostomy, goiter, wiring of patella, etc., in which local anesthesia by means of 1 to 1000 eucaine B. in normal salt solution was used. For some patients as much as six ounces of this solution were used, with no ill effect. There is no interference with primary union. Children and timid adults are not adapted to its use, for they are frightened by the surgical surroundings. Acutely inflamed areas cannot be rendered entirely anesthetic. Dragging the mesentery causes a sense of pressure or griping.

Syphilis of the Nervous System.—Syphilis is one of the most frequent infectious causes of organic nervous disease. Wm. M. Leszynsky (*Jour. Am. Med Assoc.,* Jan. 27, 1900) says that every morbid condition of the nervous system which may develop in a person is not necessarily due, however, to a syphilis acquired at some more or less remote period. A favorable prognosis does not necessarily follow the discovery that a lesion of the nervous system is of a luetic nature. It has been demonstrated by clinical experience that patients who have undergone a thorough and systematic antisyphilitic treatment in the early stages of the disease are not insured thereby against subsequent syphilitic disease of the nervous system. Thus it seems that there is no remedy which will protect the nervous system against syphilis. When syphilis attacks the nervous system it affects it in several ways. (1) It may produce an endarteritis in the intracranial or spinal arteries, which gradually leads to thrombosis and occlusion of vessels. (2) It may give rise to a gumma or a local or diffuse gummatous exudate, which may gradually press upon, and finally destroy the nerve-cells or conducting fibers. (3) The cell substance may undergo degeneration because of a gradual interference with its nutrition. The first two forms, known as "inflammatory" or "exudative," often occur within the first two to three years, and may occur within a few months, after infection. They are more or less acute. The third form is called "degenerative" and is chronic. The forms of brain syphilis most dan-

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gerous to life are: (1) That which attacks the cerebral arteries, producing obliterative endarteritis, and (2) basal-meningitis and meningo-encephalitis extending to the posterior fossa. The symptoms, which result from the destruction of nerve-cells, when they have persisted for months or years in spite of treatment, are those which are not amenable to further treatment of any kind. When a cerebral artery—it is most frequently the middle cerebral or its branches—becomes the seat of thrombosis, the nutrition of an area of the brain is interfered with, and there is a corresponding impairment of its physiologic function. The amount of disturbance depends upon the size of the vessel involved and of the area supplied by it, and upon whether the occlusion is partial or complete. The cutting off of the blood supply of an area causes a necrotic softening which no antisyphilitic treatment can remedy. Cerebral hemorrhage causing destruction in the internal capsule may be due to the rupture of a syphilitic artery, but antisyphilitic remedies cannot repair the damage. In such conditions it is not only useless, but harmful, to persist in giving mercury or potassium iodide. It is in recent luetic inflammations that antisyphilitic remedies are of value. The rapidity of relief depends on the virulence of the disease, the character and duration of the symptoms, and upon the susceptibility of the patient to mercury and iodine.

Phthisis and Obesity.—Under this title B. Martin (*Le Nord Médical*, Jan. 15, 1900) directs attention to the victims of tuberculosis whose pulmonary lesions are grave and extensive and who yet remain stout and in good condition. Many of these owe their general health to the influence which an arthritic constitution exercises on the progress of pulmonary tuberculosis. Some have presented in youth the stigmata of scrofula; and there is no doubt that the scrofulous diathesis plays some part in the production of these types. Others owe their robust condition to good digestion, rest, fresh air and methodical and intelligent superalimentation. In all, even with cavities, the prognosis is not unfavorable for a prolonged course to their disease, and comparative freedom from disagreeable symptoms. They retain a stout, hearty appearance, eat and sleep well, have neither diarrhea, fever, nor night-sweats, are able to attend to business, and yet have the most extensive lesions in their lungs.

Tensile Strength of Sciatic.—Since the operation of stretching the sciatic nerve has been so frequently performed to relieve intractable sciatica, it is important and interesting to know how much strain upon the nerve is safe and advisable. W. E. Lower (*N. Y. Med. Jour.*, Feb. 3, 1900) has tested the strength of the sciatic nerves of nine subjects shortly after death in a manner similar to that used in the operation of nerve-stretching. In one case the nerve gave way when only one hundred pounds had been used. The average weight required was one hundred and forty pounds. In most of the cases the nerve did not break, but its connections with the cord and membranes were detached.

Home Treatment of Consumption.—In probably 95 per cent. of all cases of consumption a change of climate, or life in a sanatorium, is impossible and they are confined to their homes for treatment. Wm. Osler (*Maryland Med. Jour.*, Jan., 1900) says that the arrest, or cure, of tuberculosis is a question of nutrition entirely, and that the essential factor is to improve the resisting forces of the body so that the disease cannot make further progress, or is eradicated. Fresh air and good food are the most important means by which the nutrition may be increased. While the quality of the air in our cities may not be of the best, it is a great deal better than the atmosphere of the ill-ventilated and overheated rooms in which a great number of phthisical cases live. The writer gives the following directions to his patients: In winter the patient is to be out-of-doors during all of the hours of sunshine except the first two in the morning and the last one at night. If out-of-door life is impossible, the patient should be in a room with southern exposure, with windows wide open, and the bed in the sunshine. If there is a balcony with southern exposure, the patient, well wrapped up, should sit or recline there on a comfortable lounge all day long, except when the weather is very rainy or stormy. The bedroom should be well ventilated at night and the patient gradually accustomed to have the window open. This contiuous open-air life, at rest, has a wonderful influence over the fever of consumption. Often for a month, or perhaps two, or even three months, the temperature will be normal. Those patients do best who are able to take plenty of food. Lack of appetite and weak digestion are due in great part to the fever, therefore, as the temperature falls, the appetite often increases. Each patient should eat as much as he can, even to overfeeding, or stuffing, if possible. Besides the ordinary meals, Osler urges his patients to take raw eggs, beginning with one three times a day, and increasing one a week until they take perhaps 20 to 24 daily. This he finds the most satisfactory and simple diet for the hyperalimentation. The egg, broken into a cup and seasoned with salt and pepper, can be swallowed without breaking the yolk. The main diet should consist of milk, cream, butter, eggs, meat and oysters. Osler divides the medicinal treatment into (1) the use of stomachics, bitter tonics and digestives; (2) cod-liver oil, hypophosphites and creosote for general nutrition, and (3) remedies for cough, pain, night sweats, etc.

Progressive Muscular Atrophy.—Placzek reports an anomalous case of this disease (*Virchow's Archiv.*, 158, p. 105), which, while from a clinical point of view was a most typical case of progressive muscular atrophy and showed the typical alterations in the ganglion cells of the anterior horns of the spinal cord, yet also showed the classical objective changes found in tabes dorsalis. These findings existed without the patient

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having shown any of the symptoms of this disease. He had been a type specimen for class demonstration for some time and notwithstanding the most minute examinations had never evidenced any changes in the pupils, nor variations in the sensations of taste, pain, place and had never had any pain nor interference with the functions of the bladder nor of the large intestine. Loss of knee-jerk had developed late in the disease.

Night-Air of New England in Consumption.—C. S. Millet (*Maryland Med. Jour.*, Jan., 1900) tells of the treatment he has instituted and the results obtained in some cases of phthisis which he cites. The treatment consisted in the patient sleeping out-of-doors, except on those nights when it was very rainy. The cot was placed on the roof of a veranda, or on a platform built against the house. The patients used as much bedclothing as was necessary to keep them comfortable. The first case was a young man with a remarkable family history of phthisis. He had incipient phthisis and had lost twenty pounds in weight. For five months he slept out-of-doors every night. At the end of one month his temperature was normal and his cough and dyspnea nearly gone. At the end of five months it was found that he had gained twenty-two pounds. The only medicine he took was some tincture of nux vomica. He worked all during the five months in a factory, and is now perfectly well. A second case was of a man sixty-four years old with distinct physical signs. He has slept out several months, with an improvement in the physical signs and a gain of eleven pounds as a result so far. A third case was of a boy infected with tuberculosis from his father's cow, whose cream he had taken to excess for some time. When the cow was killed the source of the infection was learned. This boy's lungs were so extensively involved that a permanent arrest of the condition is not expected, but after sleeping out-of-doors for six months he gained nineteen and a half pounds and feels so well that he has to be restrained by putting him to bed whenever his temperature goes above 99.5° F. Case four is of a man who has had a pulmonary hemorrhage, and lost a good deal in weight. He had a cough, much weakness, and a small solidified area, so that he stopped work. He had been shut up in-doors eighteen out of the twenty-four hour for a long time. He has slept out-of-doors, gained twelve pounds, and the physical signs have nearly disappeared. Case five is of a young man with marked physical signs. He has commenced to gain in weight, although he has not been sleeping out-of-doors very long. In all these cases the more air they got, the more appetite and the less cough they had. Not a dose of cough medicine was given to any of these cases. Two neurasthenics, one of whom had been condemned to die of tuberculosis, tried sleeping out-of-doors and have been decidedly benefited. The diet was not restricted, but the patients were recommended to take plenty of milk, eggs, and vegetables. The patients were required to take a cold sponge bath each morning and another at night, at about 90° F. Millet thinks a patient should rest in bed enough during the day to keep his temperature below 99.5° F.

Formulæ for Bronchitis.—Landesmann states the following formulæ to be in use in Neusser's clinic in Vienna:

1. Expectorant mixture:

℞ Rad. senegæ .....3iiss v
Ac. hydrochlorici dil.....gtt. v
Syr. senegæ .....3iv.
M. Sig. One tablespoonful every three hours.

2. In case of constant, irritating cough:

℞ Peronini .....gr. iii
Aq. laurocerasi .....ʒss.
M. Sig. Ten drops three times a day.

3. In case of dry cough:

℞ Tinct. opii .....gtt. x
Decoct. altheæ .....ʒiiss
Syr. rubi id. .....3iiss.
M. Sig. One teablespoonful every two hours, or:

℞ Apomorphin. hydrochlor. .....gr. ½
Morphin. hydrochlor. .....gr. ⅓
Ac. hydrochlorici dil.....gtt. v
Syr. cort. aurant. .....ʒss
M. Sig. To be taken in one day.

Care of the Mouth in a Healthy Child.—For the first six weeks the infant's mouth should be washed before nursing and also after nursing, unless asleep, with a soft, small square of linen dipped in water. No square should be used more than twice, or at another nursing. By the time the child is three or four months old it will suffice to wash the mouth twice a day. During dentition, however, it should frequently be washed out with cold water. As long as the child subsists on milk and broths the teeth need cleansing with a bit of wet linen only; when solid food is taken a soft, fine tooth-brush should be used. The following makes a suitable powder:

℞ Pulv. oss. Sepiæ 3v
Magnesii carb. 3v
Pulv. rad. iridis flor.....3ss
Ol. menth. piper. .....gtt. iii.
M. Sig. Tooth-powder. Rinse the mouth well after using.—*v. Widerhofer.*

For Sciatica.—Prescribe six to eight capsules daily, each containing one and one-half grains of ichthyol, and in addition inunctions with:

℞ Ichthyol 3v
Chloroform .....ʒi
Bals. tranquillans .....ʒi.
M. Sig. External use.—*J. Crocq.*

For Aphthous Patches in Infants.—

℞ Sod. boratis 3i
Tinct. benzoin. 3i
Syr. rubi. id.....3x.
M. Sig. External use.

The patches should be touched five or six times a day with a bit of cotton saturated with the above.

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THE MEDICAL NEWS.

A WEEKLY JOURNAL

OF MEDICAL SCIENCE.

COMMUNICATIONS in the form of Scientific Articles, Clinical Memoranda, Correspondence, or News Items of interest to the profession are invited from all parts of the world. Reprints to the number of 250 of original articles contributed exclusively to the MEDICAL NEWS will be furnished without charge if the request therefor accompanies the manuscript. When necessary to elucidate the text illustrations will be engraved from drawings or photographs furnished by the author. Manuscript should be typewritten.

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SATURDAY, FEBRUARY 10, 1900.

DIET IN CONSUMPTION.

A FEW years ago French clinicians took up the subject of feeding, overfeeding in fact, and claimed for it practically specific therapeutic properties in the treatment of consumption. Professor Fuster of Montpellier obtained excellent results in a number of cases by the addition to the ordinary diet of raw meat and alcohol. By the administration of from 100 to 300 grams (3 to 10 ounces) of raw meat-pulp and 100 grams (3 ounces) of cognac, he obtained such rapid and marked improvement in his first series of cases that for a time it seemed as though he had found a specific for tuberculosis.

Like so many other vaunted specifics, however, it proved a disappointment. It was demonstrated, however, that in certain cases of incipient tuberculosis, especially where patients have always been free meat-eaters and their appetite and consequently their consumption of meat have decreased, this method of treatment constitutes one of the best therapeutic measures at our command.

Later Professors Debove and Dujardin Beaumetz at the University of Paris recommended forced feeding. In cases in which the patient showed repugnance to taking much more than the usual quantities of food they suggested the use of the stomach-tube, so as not to excite the patient's aversion to the food during its deglutition, as this would be apt to interfere with its digestion. Debove considered that after a period of preliminary training as much as 500 grams (over 15 ounces) of specially prepared meat-powder might be given. This is the equivalent of about four pounds of fresh meat. Besides this, however, the gave from 200 to 400 grams (6 to 12 ounces) of powdered beans or lentils, from 8 to 10 eggs, and advised very free consumption of milk. His patients increased very rapidly in weight under this regimen, as much as twenty to forty pounds in three months, and the ordinary symptoms of tuberculosis of the lungs, the fever, the night-sweats, the coughing, and the expectoration, all improved. A far smaller number of patients than might be imagined were found, at least in hospital practise, to be incapable of assimilating these heroic quantities. Relapses, however, were rather frequent, showing that the gain in strength was not a stable one. It became evident that a more gradual putting on of weight was more effectual in preventing further progress of the disease and avoidance of relapses.

The work thus overdone has not, however, been without is effect on the modern therapeusis of consumption. It has taught a lesson that has been cherished, especially at the sanatoria. Liberal diet to tempt the appetite, tonics to whet it, and the physician's prescription as to definite amounts to be taken, constitute one of the most important legs of the therapeutic tripod, fresh air, abundant food and regular life, upon which the modern successful treatment of consumption in sanatoria rests.

SARANAC HOME FOR ADVANCED CONSUMPTIVES.

AN appeal to the charity of the generous that deserves a most hearty and ready response is made in the fifteenth annual report of the Adirondack Cottage Sanitarium. Dr. Trudeau asks for the establishment in Saranac Lake village of a reception-hospital for cases of consumption that are too far advanced for admission to the Sanitarium. He says:

"During the entire year, but especially during the summer months, scores of invalids in the last stages of the disease come to Saranac Lake village, either with scanty purses or wholly without

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funds, full of the new hope which the prospect of admission to the institution has brought them only to meet the bitter disappointment of finding they cannot be taken in because their cases are beyond the reach of treatment. Too sick often to care for themselves, without money and without friends, their position is most pitiable and they seek here, often in vain, a place to await the inevitable end. A separate hospital building that would afford a shelter to these stranded and helpless human beings would, indeed, be a fitting complement to the work of restoration attempted at the Sanitarium."

A noble opportunity is thus presented for most helpful beneficence. The great good that has been accomplished at Saranac in the past, under the unselfish care and constant self-sacrificing devotion of its modest director, is too well known to need to be dwelt on here. To Dr. Trudeau, above all others, is due the present practical movement for the care of the tuberculous in this country which promises to be of far-reaching effect in our struggle with the great white plague. The present report of the Saranac Lake Sanitarium furnishes additional proof of the great work that he is doing. The concluding words of the President's report to the Board of Directors are worthy of note:

"Two hundred and fifty-four patients have been treated. To two hundred and eight of these the institution has furnished the best possible means of restoration to health at less than one-half the cost these could be procured for elsewhere, and to forty-six entirely free of cost to them."

We sincerely hope, then, that Dr. Trudeau's appeal will meet with the immediate generous response it deserves, and that this new feature of his work may soon be ready for the poor sufferers, whose needs are so great. We know of no charity where funds could be spent with more actual benefit to suffering humanity than in the way suggested. Physicians who are consulted by the generously charitable for direction in the disposition of funds should bear in mind the modest appeal of the pioneer sanitarium at Saranac.

FRESH AIR AND THE DEATH-RATE OF THE PLAGUE.

IN view of the possibility that the plague may become a well-known disease in Europe and America before many years have passed, some figures published by Weir, one of the officers of the Sanitary Service of Bombay, are full of interest. He hit upon the idea that the mortality was greater among patients who live on the ground floor of houses than among those who live in higher stories. By tabulating cases according to the story in which they occurred he found a striking decrease in the death-rate with each additional flight of stairs. Thus the mortality among patients living on the ground floor was 84.7 per cent. For each successive story the mortality was as follows: First, 75.5 per cent.; second, 67.3 per cent.; third, 59.7 per cent.; fourth, 58.1 per cent.; fifth, 45.4 per cent. Buildings in Bombay are not so constructed as to permit an investigator to extend his observations above the fifth story. Proceeding, however, along the same line, the mortality in the tenth story would be 22.7 per cent.; in the fifteenth, 11.4 per cent., and in the twentieth story, 5.7 per cent. Who will dare to guess the amount of rent which the owner of the tallest building will receive for his top story, if the plague reaches Chicago!

In the densest portion of Bombay the houses are built on narrow streets and are surrounded by broad, low verandas, which permit scarcely any air or light to penetrate into the lower stories of the central part of buildings. This decreased mortality for the residents of upper stories held good not only in such houses, but also in better built ones. Moreover, people living in separate houses, as in the country districts, recover from the plague in a far greater proportion than those living in close quarters. The Indian government is considering the advisability of tearing down and rebuilding the houses in the worst district of Bombay, so that the tenants shall have a reasonable amount of light and air. If the new buildings are to be put on a paying basis, however, the rent necessarily charged will be entirely beyond the reach of the inhabitants of the present structures which they aim to replace.

In this connection may also be mentioned the plan proposed by Pierre Apery of Constantinople to rid an infected ship of rats. It is a well-known fact that rats are capable of spreading the plague; hence to fumigate a ship and leave a horde of rats in its hold is a comparatively useless procedure. Apery's plan is to tow the ship a mile or more from land. Cheese and fragments of food are scattered in the most accessible portion of the hold in order to bring together all the rats. A generator of carbonic acid gas is then set to work to form enough gas to displace the air in the lower portion of the ship. Owing to the weight of this gas it sinks slowly to the bottom and gradually displaces all the air. As

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a mixture of one part carbonic acid gas and two parts of air is sufficient to suffocate an animal it will not be long before the diffusion of the gas will kill all the rats. As the gas has no unpleasant odor or taste animals are not frightened by it and even if a few should jump overboard the distance from land is so great that they will be drowned. The upper level of the gas may be determined by lowering a lighted candle into the hold. When the gas is reached the candle will be extinguished. When the rats have been killed the carbonic acid gas may be pumped out of the ship. The bodies of the vermin are then collected, disinfected, and destroyed. This method of procedure is simple, easily carried out, and inexpensive in comparison with the effects it accomplishes.

ECHOES AND NEWS.

NEW YORK.

State Medical Society.—Dr. A. M. Phelps of New York, at the recent meeting held in Albany, was elected president of the Society for the ensuing year.

Measles at Fort Slocum.—Measles have broken out at Fort Slocum, on David's Island, where fifteen hundred recruits and nearly a hundred United States Army officers are awaiting transportation to the Philippine Islands. There are now ten cases.

A Correction.—By some inexplicable inadvertence Dr. H. C. Coe in our last issue was designated as Professor of Gynecology at the Cornell University Medical School. This is an error. Dr. Coe is Professor of Gynecology at the Bellevue Hospital and University Medical School. In the last paragraph of his article the word "fortunate" should read "unfortunate."

Shake-up of Pension Surgeons.—The Boards of Pension Surgeons of this city have been reorganized under orders from Washington. The number of boards have been reduced from six to four and fifteen of the former surgeons have been dropped from the Government employ. The three members of the old boards who were retained are Drs. D. D. Stevens, R. T. Bangs and Frank H. Zitz.

Contagious Diseases.—For the week ending February 3, 1900, there were reported: Measles, 817 cases and 21 deaths; diphtheria, 322 cases and 55 deaths; laryngeal diphtheria (croup), 13 cases and 8 deaths; scarlet fever, 220 cases and 21 deaths; smallpox, 2 cases; chicken-pox, 43 cases; tuberculosis, 237 cases and 144 deaths; typhoid fever, 20 cases and 13 deaths; cerebro-spinal meningitis, 3 deaths.

Skin and Cancer Hospital.—Dr. Bulkley will close his course of lectures on diseases of the skin, at this institution, with three lectures on syphilis, February 14th, 21st and 28th, at 4.15 o'clock. The lectures will cover the entire subject and will be freely illustrated by cases, models and plates. These lectures, as in the series just closed, will be free to members of the profession on presentation of their professional cards.

Officers of Obstetric Section.—At the January meeting of the Section on Obstetrics and Gynecology of the Academy of Medicine, J. Riddle Goffe was elected chairman and George Gray Ward, Jr., No. 230 West 59th street, secretary. Dr. Samuel Hall, one of the three surviving founders of the Academy was present and gave some interesting reminiscences of practise in New York fifty years ago.

Sales of Antitoxin—A bill has been introduced in the Legislature in reference to the sale of lymph and antitoxin in Greater New York, which provides that in case the amount of lymph or virus shall exceed the amount required in the proper performance of its duties, the Board of Health may cause such excess to be sold at public auction, but the aggregate net amount of such sales shall not in any one year exceed $5000. It has been the practise of the Board to sell its excess of antitoxin at private sale.

Arrest of Fifteen Midwives.—Dr. Feeney of the Board of Health applied, on February 4th, for warrants for fifteen midwives who, he declared, were conducting lying-in institutions on the East side without permits from the Health Department. Dr. Feeney declared that the number of midwives had increased recently and that they were conducting a business prohibited by the Sanitary Code. They failed generally to make any report to the Board of Health of the infants born on their premises. A police sergeant and a dozen policemen were on hand and made affidavits on which the complaints were based.

The Removal of Dr. Backus.—Governor Roosevelt has failed to reappoint Dr. Truman J. Backus manager of the Long Island State Hospital. This failure is in effect a removal of Dr Backus. The latter has filled his position most capably. A few weeks ago the Governor distinctly gave those interested to understand that he recognized the necessity of reappointing Dr. Backus and should send in his nomination shortly after New Year's. Instead, he has sent in the name of another man. The real explanation may lie in the fact that, as the chief member of the Board of the Hospital, Dr. Backus some time ago, for the very best reasons, it is said, compelled the resignation of the hospital's superintendent, who was the son-in-law of Senator Raines.

Mount Sinai Hospital.—The plans for the new buildings of the Mount Sinai Hospital are being completed rapidly by Architect Arnold W. Brunner. Most of the money has been raised, and the remainder, it is expected, will be obtained without difficulty. The excavations will begin early in the summer. The total cost will be considerably more than $1,000,000.

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The new hospital will occupy a group of buildings of marble and light brick, with marble trimmings, covering the block bounded by Fifth and Madison avenues and One Hundredth and One Hundred and First streets. All the buildings will be connected by covered corridors. The roofs of the ward buildings will be used as roof gardens, and will have sun-rooms in the central portion for use in the winter. All will be strictly fire-proof and finished as far as possible in the interior with tile and marble. The advance in the price of building material will necessitate an additional expense of $50,000 in construction and there is some talk of delaying the erection of the building on this account.

Mortality in New York State.—The State Board of Health at Albany reported on February 2nd that the number of deaths from all causes for 1899 was 121,820. This is 850 more than in 1898 and 4740 more than in 1897, which was a year of unusually low mortality. The death-rate per 1000 is 17.3, which is the average death-rate for the past ten years. The infant mortality was less than the average by nearly 5000 and is 1800 less than that of last year, 29 per cent. of the deaths occurring under five years of age against the average of 35. A point to be noted in connection with the antitoxin treatment is that compared with the average of ten years the deaths from diphtheria are but little more than half as many, although the number is 175 greater than in 1898. Diarrheal diseases caused 2000 fewer deaths than the average. Whooping-cough, measles, scarlet fever and malarial diseases all caused fewer deaths than the average. Smallpox caused 21 deaths, all save three of which occurred in New York City. The outbreak in the western part of the State, beginning in May, 1898, continued till midsummer of 1899, reaching forty-five localities in fourteen counties and attacking 320 individuals and produced but one death. At the end of the year the State is believed to be free from smallpox. Grip is estimated to have caused 7000 deaths from January to April. An epidemic of modest severity prevailed at the close of the year. The deaths from acute respiratory diseases were excessive on account of it, nearly 18,000 deaths, or nearly 15 per cent. of all deaths, having been caused by such diseases.

PHILADELPHIA.

Medico-Legal Society.—This Society has elected as officers for the ensuing year: President, Dr. Albert M. Eaton; first vice-president, Dr. L. H. Adler, Jr.; second vice-president, Dr. Samuel Wolfe; secretary, Dr. Clewell; treasurer, Dr. G. W. D. Peltz; librarian, Dr. J. D. Nash.

Health Report.—The number of deaths for the week ending February 3rd was 507, an increase of 9 over the previous week and a decrease of 5 from the corresponding week of last year. Contagious diseases: Diphtheria, 128 cases, 24 deaths; scarlet fever, 66 cases, 5 deaths; enteric fever, 39 cases, 4 deaths.

Dr. S. Weir Mitchell's New Story.—Dr. Mitchell's new novel, "Dr. North and His Friends," will begin its career as a serial in the March *Century*. It is said to present under the cloak of fiction many of the actual scientific observations and phenomena that have come to the doctor during his long career as physician and man of letters.

Heating of Street Cars.—The recent cold weather has brought this question again to the front. The Traction Company officials state that they are willing to please the people, but there is such a diversity of opinion they do not know what is wanted. Physicians are of various opinions. The chief surgeon of the Department of Public Safety believes the cars should not be heated, except those making long runs, and those only on exceptionally cold days, such as this city seldom sees.

The Widal Test.—Dr. A. V. Meigs does not place any value on the Widal test in the diagnosis of typhoid fever. An expert at a distance with only a drop of the patient's blood cannot tell much about the diagnosis. Again, the test gives a positive reaction in blood from patients suffering from tuberculosis and other diseases as well as typhoid fever. In a recent case the City Hall laboratory reported a positive reaction and the hospital laboratory a negative one with blood from the same patient. Dr. Meigs believes the test will pass out of use in a few years.

Pure Food.—An eminent lecturer has claimed that the Dairy and Food Division of the Department of Agriculture of Pennsylvania has done more for the health of the citizens during the four years of its existence than have all the doctors in the State. This rather minimizes the importance of the disciples of Esculapius, but there is some truth in the statement, as the percentage of adulterated foodstuffs has been reduced from 90 per cent. to 10 per cent. The Commissioner contemplates investigating the liquor supply, which is also included in the law. That field is a vast one.

Pennsylvania Hospital.—Dr. J. M. Da Costa exhibited a case, February 3rd, which necessitated a differential diagnosis between tubercular meningitis, with arrest of the process and recovery of the patient, and non-tubercular meningitis in the presence of tuberculosis of the lungs. The patient was a colored man who had a typical attack of basilar meningitis with a right-sided hemiplegia. He has practically recovered from the meningitis. At the same time he has lung symptoms and tubercle bacilli are found in the sputum. Notwithstanding this fact, Dr. Da Costa believes it to have been a case of non-tubercular meningitis for the following reasons: First, the presence of marked head symptoms—retraction, rigidity, tenderness in the back of the neck; second, there were none of the secondary phenomena common to tubercular meningitis, such as crying, screaming, spasmodic contractions, etc.; third, the fact that the patient has recovered.

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A remarkable pathological specimen was also shown. This was the large white kidney of chronic parenchymatous nephritis. The interesting point was that the patient had had but one kidney, the left one being congenitally absent. The right one had hypertrophied to probably twice the normal size to meet the demand for double work. When this immense organ became diseased it showed the pathological changes in a most striking manner.

Medical Standard.—The Association of College Presidents of Pennsylvania, at a meeting held in Harrisburg, January 12th, adopted the following resolution: "*Resolved,* that the Medical Council of the State of Pennsylvania be requested so to construe the state law and their own decisions that graduates of reputable colleges be eligible for examination by the Council after three years of study in a medical college, provided that work practically equivalent to the first year of our best medical colleges be done in the undergraduate course." The Association is in sympathy with efforts made to raise the standard of medical practitioners, but believes that the admission of college graduates to the second year of the medical course is not detrimental to a high standard.

One of the most zealous champions of the college graduate is Dr. W. W. Keen, who asserts his belief that "a college graduate who has pursued absolutely no medical studies during his college course would at the end of three years in a medical school be better fitted, on the whole to practise medicine than would a man who had gone through the entire course of four years of the medical school without such previous training. But when the college student comes to us with a certain fixed number of hours of study of anatomy, embryology, bacteriology, chemistry, etc., then it is preeminently true that such a man, even although he studies only three years in the medical school, will be a more accomplished physician than the other."

Academy of Surgery.—At a meeting held February 5th Dr. John B. Deaver reported a case of pancreatic cyst. The patient was a woman of 58 years of age, who, although the condition was one of twelve years' standing, had good general health, eating and sleeping well. The distention of the abdomen, however, had caused a prolapse of the vagina some two years ago. The abdomen measured 52 inches in circumference at the level of the umbilicus, the liver and heart being slightly displaced upward. Diagnosis was difficult, but palpation detected a plate of cartilage which led to the diagnosis of a cyst. The abdomen was opened and found to contain large quantities of an oily fluid. The presence of a pancreatic cyst, adherent to the parietal peritoneum, was also revealed. The free fluid was evacuated and the geography of the cyst and its adhesions obtained. The abdominal wound was then closed and an incision made directly into the cyst. Its contents were evacuated, the cavity drained, and the patient made a perfect recovery.

Dr. Thomas K. Morton exhibited a boy from whom he had removed the astragalus for club-foot ten years ago. The foot is almost as perfect as a normal one, no ankylosis having taken place. Dr. Morton has removed the astragalus in about 100 cases. He has never found it necessary to tie a vessel, suppuration has never taken place, and ankylosis has not occurred in a single instance. The wound is closed without drainage and the leg put on a right-angled tin splint.

CHICAGO.

Evanston Hospital.—A ward for contagious diseases is to be erected in connection with the Evanston Hospital. The wing will be two stories and basement, of pressed brick and stone, connected with the main building by an open corridor. The cost of the improvement is estimated at $20,000.

Vital Statistics.—According to a tabulated statement in the weekly bulletin of the Health Department, there were 45 fewer deaths during the week ending January 27th than the week preceding, and 96 fewer than for the corresponding period of 1899. The reduction is chiefly in the chronic diseases and among the aged. The death-rate a year ago was excessive, owing to the fatalities from influenza and its complications. Deaths from scarlet fever and diphtheria show a substantial reduction. The rate for typhoid is the lowest for this season for years. Medical inspectors of schools for the week examined 7376 pupils, of whom 452 were excluded from the schools.

Physicians' Club of Chicago.—At a meeting held January 29th, medical legislation was the subject for discussion. Hon. S. P. Shope, ex-Justice of the Supreme Court, discussed in a masterly manner the constitutional aspects of medical legislation. Dr. J. W. Pettit of Ottawa, Ill., analyzed the present state medical law, pointing out its points of strength and weakness. Dr. George H. Simmons, editor of the *Journal of the American Medical Association,* followed with remarks on the need of organization and cooperation to promote proper medical legislation. A general discussion followed which was participated in by Drs. I. N. Love, Weller Van Hook, C. B. Johnson, James A. Egan, Harold N. Moyer, Clarke W. Hawley, and Frances Dickinson. A resolution was offered and adopted urging Governor Tanner to appoint Dr. George W. Webster as a member of the State Board of Health to fill the present vacancy.

The Schoenborn-Beele Splint.—Dr. Edward H. Lee advocates the use of this splint and says that among its many advantages which it offers are that it can be applied immediately; it is light and neat; there is no necessity of padding with cotton; it is not apt to produce decubitus; it may be removed and put back in place in a very short time,

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and the cost of the material is moderate. He knows of no other splint that will adapt itself so perfectly to the form of the limb as this one. In 1891, during his term of service as intern under Professor Schoenborn at the Julius Hospital in Wurzburg, Germany, he had the opportunity of becoming familiar with the making and application of this splint. For the past seven years he has used it in the Cook County Hospital, the Alexian Brothers' Hospital, and in private practise in a great number of cases. It has also been used extensively by a number of the interns of the Cook County Hospital and by some of the members of the attending staff, and the results have been excellent.

Heart's Ease and Mind-Cure.—The Rev. P. S. Henson of this city recently preached a sermon on this subject, and among other things he said: "By mind-cure I do not have reference to bodily cures wrought by mental processes. There is a great truth that lies in that direction and mental therapeutics are forging more and more to the front in the practise of the best physicians, while innumerable money-making fakirs are availing themselves of it for the working of what are accounted by their credulous dupes as miraculous cures. And presently these humbugging hypnotists are riding in chariots, with liveries and servants in attendance on their highnesses, and are organizing banks and projecting ideal cities on a scale of imperial splendor, toward whose erection their confiding followers are expected to contribute all their hard-earned savings, while the projectors, with plethoric pocketbooks, flit across the sea in search of health or pleasure. This is mind-cure that is akin to madness. And Christian Science, which of late has had such a sweep of power, appeals to the same principle, and works by the same principles, and makes big money for its shrewd discoverer. What religion there is in it is a flat denial of the fundamental truths of the gospel."

Tuberculin a Failure in Diagnosis.—At a recent meeting of the stockraisers and dairymen, held in this city, a special committee, after stating that it has never been proved that tuberculosis is transmissible between cattle and human beings, summed up the objections to the use of tuberculin as follows: "The temperature of healthy animals and those affected with the disease sometimes rises after the injection of tuberculin. Some tuberculous animals do not react to tuberculin. Tuberculin does not determine the stage of the disease, but condemns animals which might live for years and possibly recover. Tuberculin may produce the disease in healthy animals, and certainly hastens its progress in those affected. It has been proven that identically the same action as that of the tuberculin can be produced by the injection of the extracts of other products of various bacteria, even such as are known to have disease-producing properties. Tuberculin is a poison, and it is not desirable to inject it into the blood of a cow that is giving milk for the use of the public. Tuberculin develops the germ that it was intended to destroy, adding poison to poison, and being cumulative in its effects. The cases in which it has apparently caused no harm to healthy cattle are so scarce and irregular that no general conclusion can be drawn from them. The expert skill with which the process has been employed at the experiment stations cannot be applied in the general use of the test. The disease can be stamped out in any herd of cattle without the tuberculin test. The compulsory slaughter of cattle under the tuberculin test has been compelled and abandoned wherever it has been tried to any great extent. This is noticeably true in the States of New York and Massachusetts, where laws similar to those now in force in Illinois were repealed as a nuisance. The whole scheme is a vain attempt to eradicate a disease by removing the natural results of unsanitary conditions, while leaving the proximate cause, proper conditions for the promulgation of germs, to go on unmolested. The last germ cannot be destroyed without altering the entire plan of the Creator. What is needed is a law to compel conditions for the prevention rather than means for the extermination of the disease, when that extermination calls for the extermination of cattle." The report concluded that the quarantine cuts off the supply of fresh and healthy cattle, and that the State Live Stock Board is wrong in regarding tuberculosis as a "dangerously contagious or infectious disease," justifying the destruction of private property without compensation.

Prevention of Tuberculosis.—Dr. Charles J. Whalen of the Chicago Medical Society said the number of deaths from tubeculosis in Chicago for the year 1898 was 2416, and the average reported deaths from this disease annually for the past ten years was 2378, 11 per cent. of the mortality from all causes. The United States Government spends annually millions of dollars to prevent the spread of cholera, yellow fever and smallpox, yet to the presence of tuberculosis there exists a spirit of apathy that is a reproach to our intelligence. Intestinal tuberculosis is extremely rare. While infection from milk may be possible, it is extremely infrequent; the chief means of communicating the disease in childhood is by direct infection by inspired air.

The best means of prevention is the destruction of the sputum and the removal of those affected, who are too poor to receive the necessary care at home, to an isolation hospital, which should be provided by the State. It would not be judicious at the present time to make the registration of this disease compulsory, for inspection and disinfection can safely be carried out without working such a severe hardship to these unfortunates. Too rigorous or inhuman restrictions might undo the work already done, or bring it into disrepute, consequently only such precautions should be taken as are really necessary.

It is gratifying to know that Illinois is taking advanced ground on this subject. This view has

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also been gaining in favor of late in other States as well as abroad. France and Belgium and other foreign countries have provided sanatoria for the treatment of tubercular children. They are also provided with a school, so that the children not only have a chance to be cured, but at the same time receive an education. The poor adult consumptive, too, needs the protection and care of the State, and every municipality should have a sanatorium where those dependants who are afflicted with the disease may receive the necessary attention. The establishment of isolation hospitals for the consumptive poor is the best step that can be taken for the prevention of the disease. Isolation hosptials are not to be advised for the well-to-do, who can afford and will carry out the necessary instructions at home, for it must be admitted that the presence of so many invalids in all stages of the disease must have a depressing influence. A good trained nurse and control of the patient at home will be found more efficacious and satisfactory to the patient than isolation at a sanatorium.

GENERAL.

The Influenza Reaches Spain.—It is reported from Madrid that there are 5000 cases of influenza in that city. Terrible snow storms prevailed last week throughout Spain and Portugal.

Sunstrokes at Buenos Ayres.—One hundred and two sunstrokes were officially reported in the city of Buenos Ayres on February 3rd. Of these 93 were fatal. The temperature was 120 in the shade.

Faith Curists Arrested.—On complaint of the health office at Lincoln, Neb., warrants have been sworn out for the arrest of four Christian Scientists who were responsible for the death of the child of one of them. The complaint charges violation of the Lincoln health laws.

Epidemics and Prayer.—Influenza is epidemic in Italy and Spain, and the Pope has ordered special prayers to be offered up for the cessation of the affliction. There are 30,000 cases in Italy, but the majority of them are of a mild character. In Barcelona, Spain, there were 124 deaths from the disease on January 26th.

Rat War in Denmark.—Both city and country houses in Denmark are so infested by rats that a society has been organized under the name of the National Danish Rat-Exterminating Society. The record of one week's work announces the death of 90,000 rats. A crematory is being planned for the purpose of disposing of their carcasses.

The Bacillus of Pink-Eye.—Much interest is excited by the announcement that the bacteriologists of the Liverpool School of Tropical Diseases have discovered the bacillus of "pink-eye," the well-known equine epidemic. This has usually been regarded as influenza of the horse and a comparison of the new bacillus with the alleged germs of human influenza will be awaited with interest.

Havana's Vital Statistics.—A report on the vital statistics of Havana for the year 1899, compiled by Major Davis, chief sanitary officer, shows 8153 deaths from all causes in an estimated population of 220,000. Of these deaths 1163 were from enteritis and 1307 from tuberculosis. There were but 103 deaths from yellow fever. Eleven deaths were due to leprosy. The number of contagious and infectious diseases reported was 6442, of which 284 were yellow fever. There were recorded during the year 4181 births, of which 1516 were illegitimate.

Women Physicians.—Two women physicians of California have been placed in official positions within a week. One is Dr. Beatrice M. Hinkle, who was appointed Assistant City Physician by the Board of Health of San Francisco, and the other is Dr. Agnes Walker, appointed from Washington as Quarantine Inspector and Federal Quarantine Officer at Kinyoun. She is the first woman on this coast to receive a Federal appointment to office. Her duties will be to examine women and children who arrive on vessels from infected ports and care for them in quarantine.

Sir Richard Thorne's Successor.—The President of the Local Government Board, the chief sanitary authority of England, has appointed Mr. Wm. Henry Power, assistant medical officer, to the position of chief medical officer and inspector to the Board, left vacant by the death of the late Sir Richard Thorne-Thorne. Mr. Power is well and favorably known in the profession apart from his public sanitary work and the appointment is regarded as a well-merited honor. Dr. H. Franklin Parsons, President of the Epidemiological Society, succeeds to Mr. Power's post, and Dr. R. Bruce Low fills the gap made by this promotion.

The Explosive Lyddite.—The London *Graphic* says: "This high explosive, thus called from the name of the small Kentish town and gunnery center where the experiments with it were made, is nothing else than picric acid brought into a dense state by fusion. Picric acid is a bright yellow substance freely used in peaceful industries for dyeing purposes. It is obtained by the action of nitric acid on phenol or carbolic acid. It burns very violently, and, owing to the tremendous blast produced by the explosion, the destructive effect of a bursting shell filled with it is some eleven times greater than that of a shell filled with powder. Common shells of forged steel filled with lyddite are used with 6 and 9.2-inch breech-loading guns, and with howitzers; also with 4 to 6-inch quick-firing guns."

An Appendicitis Club.—An appendicitis club was formed in Cleveland, O., about February 1st. It is proposed to make this organization a national one, and to establish branches in all the cities of the United States. To become a member one must have been operated on for appendicitis.

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There are two or more grades. The ordinary members are those who have been operated upon but once. The higher ranks are composed of those who have submitted to two or more operations. Honors will increase according to the number of operations undergone. No doubt those members will label themselves after the manner of the man who became unconscious in an accident. There was found upon his chest, when the clothing had been removed from it, the legend: "My appendix has been removed."

Medical Control of Marriages.—A bill has been prepared in Colorado which, if passed, will place the granting of marriage licenses in that State in the hands of a board of medical examiners. In each county there is to be a board, to consist of three physicians, no two of the same school; and where possible the board is to have one or more female members. Licenses are to be granted to men not less than twenty-five years old and to women not less than twenty-two. To secure licenses men and women must be free from dipsomania, insanity, tuberculosis, hereditary asthma, scrofula, epilepsy and other diseases. There must be no blood relation between parties who wish to contract. No certificate entitling one to receive a license shall be granted to a person notorious for moral depravity or to one who shall at the time of the application be on trial, under bonds, or in prison for felony.

The Hospital Ship "Maine."—A dispatch has been received from Lady Randolph Churchill, who is on board the American hospital ship "Maine," at Durban, saying the vessel will be stationed there for the present. The "Maine" was filling with wounded men, including members from the battle of Spion Kop. The members of the Maine Committee in London are more active than ever, and are determined to make this American charity a success and keep it going until the war is finished. Mrs. Adair, who is now head of the committee, is perhaps the most prominent and influential American living in England. She is a daughter of General Wadsworth, who was killed at the battle of the Wilderness, and is the owner of the largest cattle ranch in the Panhandle of Texas. The energy and ability with which she manages this big property she is now devoting to the "Maine." Mrs. Chamberlain, the Duchess of Marlborough, and others who hitherto have taken no active part in the work, are now much interested and are determined to raise the £3000 monthly which is necessary to keep the ship going.

The Plague.—The epidemic continues its ravages in India, where the condition is aggravated by the famine. The mortality in Bombay February 7th was unprecedented in the history of that city, the total number of deaths reaching the extraordinary number of 408. A rather sensational report comes from London to the effect that the plague exists in England in an unsuspected form. At Southampton during the last few months dogs have been attacked by a disease which is highly specific in its nature and is gradually spreading to other parts of the country. The fatality among dogs is great. Although the disease has not been diagnosticated as bubonic plague the opinion is that it has been brought on ships by rats and so communicated to the dogs. At Lisbon a decree has been issued announcing that the bubonic plague has disappeared from Oporto and that the quarantine of that port has been raised. The sanitary and hygienic measures instituted at Honolulu have been successful in staying the progress of the disease, but the condition has not yet reached a stage in which it can be pronounced free from danger.

Obituary.—Sir Thomas Grainger Stewart, the noted Scotch physician, died in Edinburgh, February 3, 1900, aged sixty-three. Dr. Stewart was born in Edinburgh on September 23, 1837. He was educated at the High School and University of Edinburgh, and after graduating studied in the universities and hospitals of Berlin, Prague and Vienna. On his return to Edinburgh he became resident physician in the Royal Infirmary. In 1876 he was appointed professor of practise of physics at the University of Eninburgh. He was the author of "Bright's Disease of the Kidneys," which has passed through two editions in Great Britain and two in America. He was a member of many learned societies, an honorary fellow of the Royal College of Physicians of Ireland, and of the College of Physicians, Philadelphia, an M.D. of the Royal University, and received the like honor from the University of Dublin. He was president of the British Medical Association in 1898. In 1882 he was appointed Physician in Ordinary to Her Majesty the Queen in Scotland. He received the honor of knighthood in 1894. He was representative of England at the International Congress on Tuberculosis which met at Berlin in May of last year.

Women Nurses in the Army.—A bill providing for the employment of graduated women nurses in the hospital service of the United States Army has been introduced in both houses of Congress. The bill provides "that women nurses in the proportion of not more than 10 per cent. of the sick and wounded in general and post hospitals of fifty beds and upward, shall be employed by and constitute the women's nursing service of the medical department of the Army. That there shall be a superintendent of women nurses, who shall be a woman graduated from a general hospital training school for nurses. That the nurses shall be graduates of general hospital training schools having courses of instruction lasting not less than two years; that they shall be appointed by the Surgeon-General under regulations approved by the Secretary of War; that they shall receive $40 a month when on duty within the limits of the United States, and $50 a month when on duty outside of the limits of the United States." The bill provides further that nothing in its terms shall be construed to limit the power of the Secretary of War in time of war or national

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disaster to avail himself of duly qualified Red Cross nurses or nurses of other worthy societies or associations.

Indiscriminate Charity.—Mr. Andrew Carnegie in an after-dinner speech at the Lotus Club recently vigorously denounced the custom of indiscriminate charity. He said: "Let a multi-millionaire take his millions to the slums and call the people together, saying 'There is a wrong distribution of wealth in the world. You have not got your share. I give to each one of you his share of my millions.' Let that be done in the morning, and let the millionaire return at night to see what good his action has done, and he will find not happiness, but pandemonium. Let him distribute another million and another million every day for a month, and pauperism will increase every day. At the end of the month, seeing the result, he will wish that he could crawl and ask pardon for the harm he has done. He has done more injury in a month than he will do good in all the rest of his life. He has taught the hitherto self-respecting working family that industry leading to self-support and independence has no reward beyond almstaking, idleness and debauchery. It was this class of charities and the sums rich men give to applicants and to societies in order to be relieved of the trouble of investigation, of which I ventured to say that of every $1000 so bestowed $900 had better be thrown into the sea."

Anopheles and Malaria.—The work of narrowing down the causation or conveyance of malaria to this genus alone of all the mosquitoes and gnats is steadily progressing. Major Nichols of the Army Medical Corps reported some time ago the discovery in Burmah, which appeared to him identical with the descriptions published of Anopheles. Its habits were identical, its larvæ found in similar pools, and all the barracks near these puddles were extremely malarious. Specimens were sent to Major Ross, who identified them at once as belonging to the genus and probably to a particular species, *A. Rossii*. So that now in Italy, in West Africa, in India and in Burmah, this single genus has been closely associated with malarial conveyance, if not actually identified as the sole carrier. The task of exterminating malaria appears to be narrowing itself down most hopefully to the destruction of this particular group. As it is few in numbers and both fastidious and readily accessible as to its breeding-puddles, the project is far from Utopian, although it seems almost too good to be true. In this connection it is amusing and irritating, as the *Times* says, to note that Dr. Robert Koch uses the words "my theory" when he comments on new evidence from Java supporting the view that there is a close, and perhaps direct, relation between malaria and mosquitoes. Dr. Koch is undoubtedly a very great bacteriologist, and the world is indebted to him for much good work done and several important discoveries made; but he was not the first to suspect the mosquito of infecting unhappy humanity with the germs of malaria, and the theory that they do so is his only in the sense that he gave it comparatively early adhesion. Dr. Koch has been charged before with endeavoring to monopolize credit belonging to other men, and here seems to be a clear case against him.

Medical War-News.—The South African war continues to be emphatically a surgeon's war. The deaths to date stand, killed in battle, 858; died of disease, 238; a proportion which almost reverses the ordinary ratio usually reckoned at about two deaths by disease to one by bullets in campaigns which are at all prolonged. No doubt the disease will gain in relative importance as a factor in the mortality as the war proceeds, but so far the fever and dysentery death-rate has been an extremely low one. The only exception is Ladysmith, where, under the trying conditions of the siege, the fever-mortality has steadily risen until a recent report from Sir George White, covering only five days, gave a list of 28 deaths due to typhoid and dysentery as against 6 due to wounds. The death-rate among the wounded appears to be rising slightly, apparently on account of the larger proportion of other than Mauser bullets used by the Boers or, perhaps, to the "nicking" of these merciful missiles to increase their stopping power. The rate is still, however, below six per cent. A surprising feature is the small percentage of wounds inflicted by shells, a mere handful when compared with the thousands of bullet-wounds.

One of the most astonishing features of the war is the way in which money continues to pour in to supplement the deficiencies of a dilatory and undeserving Government. Whole companies and regiments are being raised and equipped at private or municipal expense and now one of these, the Imperial Yeomanry, is to have a special hospital of its own provided by private munificence. It is to be a base-hospital near Cape Town, to contain 520 beds, and be known by the name of the corps, although, of course, open to the sick and wounded of all arms of the service. Nearly two-thirds of the necessary funds have been already subscribed and the site is being selected for the building.

The military inactivity of the last few weeks has left the Medical Corps chiefly concerned with the task of nursing and sending home the wounded and counting up the results. But this has kept them busy enough, Magersfontein, Tugela, Colenso, sent flood after flood of wounded into the field-hospitals, tasking the resources of the service to the utmost. They proved equal to the strain, however, and the papers are full of praises of the efficiency and success of *our* department of the campaign, some frankly alleging that it is the only one thus far which reflects much credit upon its organizers. No less than 800 wounded were poured into the field-operating tents the day of the Tugela reverse alone, but every one of these was carefully and thoroughly dressed on the

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field, often under fire, brought into shelter before sunset and safely landed at one of the line-hospitals within forty-eight hours. To dress, and remove from the field of battle, 800 wounded men within four hours of the cessation of firing is, we think, something like a record performance in ambulance and bearer work. The hospital trains seem to have proved remarkably efficient, being brought right up to the field of battle, equipped with every comfort and even luxury, iced soda-water, champagne, soup, etc. As each train carried from one hundred to a hundred and twenty patients, the transference of even such large numbers as the Tugela casualties to the line-and-base-hospitals can be rapidly carried out.

CORRESPONDENCE.

A PECULIAR PHENOMENON OF SIGHT.

To the Editor of the MEDICAL NEWS:

DEAR SIR:—I have recently observed quite a peculiar phenomenon in connection with the perception of moving objects. Thus far I have failed to find its explanation in the teachings of medical optics. The experiment to demonstrate this is briefly as follows: Look steadily at a large wheel revolving just fast enough for the spokes not to be seen. Now, if the eyes are closed as in the ordinary act of nictation, at the instant of closure *the spokes of the wheel appear perfectly visible,* as though the wheel had suddeny stopped. If the eyes are voluntarily closed slowly this will not occur. An easy way to observe it is to notice a carriage wheel in which the observer is riding. It is best seen if the spokes are black and the light is diminished, as after sunset.

Getting no explanation from the profession or optical works, I wish to refer the matter to you and your publication for some elucidation. It seems to me to be due to some internal ocular change due to the instantaneous compression of the eye in nictation, and the short duration of this changed vision views it as still.

J. D. Poe, M.D.

Dallas, Texas, December 22, 1899.

[Dr. Ward S. Holder of New York to whom this question was submitted, offers the following explanation: The phenomenon described is somewhat analogous to the more familiar one observed where a wheel rotating in the dark is illumined for an instant with the electric spark. The illuminated wheel makes a single impression upon the retina and, therefore, appears to be at rest.

The impression upon the retina produced by the spoke of a rotating wheel persists for a certain time, and if successive spokes make their impressions upon the retina before the preceding impressions have faded entirely away the result is a faint continuous retinal impression, and the individual spokes are not perceived. But if this continuous impression is interrupted suddenly by winking the eyes or, better, by passing a screen quickly between the eyes and the wheel, it is apparent that the next succeeding retinal impression (provided the rotation is not too rapid) will be of the individual spokes and thus for an instant the rotation will seem to have ceased.—ED.]

SEROTHERAPY AND GOAT'S MILK.

To the Editor of the MEDICAL NEWS:

DEAR SIR: The following communication received by me from a physician in Arizona is interesting and instructive. It contains valuable reference to climatology, serotherapy and dietetics, which I have thought would prove of interest to the readers of the MEDICAL NEWS:

"GLOBE, ARIZONA, ——.

"MY DEAR DOCTOR: In the *Journal of the American Medical Association,* of January 14, 1899, I noticed an article on 'Serum Therapy in Tuberculosis which was of especial interest to me. Two years ago, while practising medicine in St. Louis, Mo., I was suddenly taken with a hemorrhage from the lungs; the next day I made an examination of the sputum and found bacilli. The hemorrhage was as much a surprise to me as were the bacilli, as I did not notice anything unusual in my condition until the hemorrhage, then cough, sweats and fever began, with a repetition of the hemorrhage a month later. At that time Koch's tuberculin R. was given to the public and Dr. Carl Fisch of St. Louis, who is a personal friend of mine, was experimenting with this remedy according to Koch, and he and Dr. E. W. Saunders advised me to try it. This I did, taking the injection every day. The night sweats and fever disappeared, and the cough was slight. It has, however, always been a question to my mind whether tuberculin R. was the cause of my improvement. After taking the injection for eight weeks (at this time I was living in the country and not practising) I left for Arizona. I had been in the Gila valley about three weeks when I had another hemorrhage. This lasted a few days and disappeared entirely and was not attended with fever or night sweats. About five months later, February, 1898, I went to Phoenix to take the medical examination to practise. While there I had another hemorrhage, but paid little attention to it. Again fever and sweats did not follow. The hemorrhage usually occurred on retiring at night and on arising in the morning. Eight months later I wrote to Dr. Fisch, telling him of my condition and he sent me more serum. I began to use it and in two weeks I had another hemorrhage, which lasted about three weeks, bleeding every morning and night regularly and a few times during the day. These hemorrhages were more severe than usual. I was very much reduced physically by them and I took a vacation and went to Guadalapara, Mexico. Here the winter was not as severe. The dyspnea which followed the last hemorrhage disappeared, but the cough and expectoration were

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quite profuse. In the latter part of March I had another hemorrhage, which lasted about six days. I was then in Aqua Caliente, Mexico, in the hospitals of the Mexican Central Railroad, as assistant. Fearing the confinement and filth of Mexican cities, I returned to Arizona, and have felt much better since my return. The peculiar features are the absence of sweats and fever. The hemorrhages return every six months, but they do not confine me to bed or hinder me in my work. Was the severe hemorrhage in October due to the T. R.? I stopped using it when the hemorrhage began. *The cause of my resisting the disease, I feel, lies in my good appetite and out-of-door life, and Arizona is the ideal place.* As to goat's milk, last week while making a call in the country I stopped at a goat-ranch, and the goatman offered me some milk. I had never tasted goat's milk before; *it was just grand,* much better than cow's milk, and thus when I came across the article quoted I was quite interested.

"It is held that infants are immunized against the ordinary contagious diseases by the antitoxines in the mother's milk! We know that in Russia they use Kumiss, or fermented mare's milk for the treatment of tuberculosis. In the July number of the *Wide-Wide World Magazine* is a most interesting article by Victor Pitnethley, entitled "The Kumiss Cure." This is all about a wonderful 'farm' in the Russian steppes where consumptive people are made well by drinking mare's milk and basking in the glorious sunshine. Both normal horse blood serum and mare's milk, as well as normal goat blood serum and goat's milk, I have argued contain natural antitoxins and are powerful agents to bring about a 'cure' in tuberculous patients. I have seen Dr. Fisch inoculate two guinea-pigs with diphtheria toxin. One of these pigs he gave goat's milk and it lived; to the other he gave no goat's milk and it died. The same result I have seen with tuberculin R. in monkeys. I am interested because I am in such a condition, again interested as a physician. I believe as you do, that the secret of success lies in pure air, sunshine and good digestion. If there is anything I can assist you in, as to information about Arizona or Mexico, I am at your service, or should you have any suggestion or care to offer any information as to goat's milk, etc., kindly mention it.

"I am, yours fraternally,
"A. F. MAISCH, M.D."

This report is very interesting to me because as early as 1867 I was stationed at Fort Cummings, New Mexico, the "Sentinel of the Southwest," as it was then called. From Fort Craig, after crossing the river, beyond the dreary Jornado del Muerto, or Valley of Death, or literally translated, Journey of Death; at the southernmost end, after a march of ninety miles or more, was Fort Selden. Then sixty-five miles of desert to Fort Cummings and forty-four miles further on southwesterly, Fort Bayard, which has been opened recently as a consumptives' hospital. (See MEDICAL NEWS, December 23, 1899). No location could be better, for north, south, east and west the climate is superbly suited for the treatment of tuberculosis. I have been stationed at Fort Elliot, in Texas, and at Fort Union, New Mexico, and know the Santa Fé trail from beginning to end and believe in New Mexico for the cure of tuberculosis. Beyond Fort Bayard the trail goes westward into Arizona, and all through the region the atmosphere and the climate generally is life-giving in the highest degree.

In 1895 I visited and reported on the climatology of southeastern New Mexico. The present year I had introduced, through my friend and Congressman, General Cogswell of Massachusetts, a bill to create a sanatorium for consumptives at some abandoned military post in New Mexico, but although much time and money was freely spent to carry on the good work it met with obstacle after obstacle. The Army Medical Department has at last successfully inaugurated this noble undertaking, but I understand that no provision has been made for citizens to enjoy its privileges. The history of this effort will be found in the *Journal of the American Medical Asociation,* 1896, and MEDICAL NEWS, December 23, 1899. The Marine Hospital Service has also received, within the year, through President McKinley, the use of another military station for the same beneficent purposes. I am thoroughly in accord with Dr. Maisch in what he has said of the life-giving atmosphere of that remarkable "health section," and it seems to me that this would be a most excellent opportunity for some competent persons, with medical assistance, to engage in goat-farming in New Mexico, and to make provision for the suitable care of tuberculous patients in connection with the ranch. Patients could secure the benefit of the climate, of the goat-milk treatment, and of the normal goat serum treatment, all at the same place.

W. K. PARKER, M.D.,
Formerly A. A. Surgeon, U. S. A.

Westboro, Mass., December 13, 1899.

OUR LONDON LETTER.

[From Our Special Correspondent.]

LONDON, January 27, 1900.

THE GREAT LONDON HOSPITALS AND THE WOUNDED —THE YEOMANRY HOSPITAL—INOCULATIONS FOR TYPHOID—"ANTIS" TO THE FRONT—A MEDICAL PARLIAMENTARY CONTEST—DECLINE OF THE INFLUENZA—THE ROYAL COMMISSION UPON THE WATER SUPPLY AT LONDON.

AN illustration of how this war is shaking London to its very center has been furnished this week by the response of the London hospitals to the Government circular asking what number of beds they could devote to the care of the wounded from South Africa. Guy's, Westminster, Charing

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Cross and the Royal Free have each promised twenty beds, St. Bartholomew's fifty, and the Brompton Hospital for Consumptives will also do its share. It is intimated that St. Thomas's, University College, the London and the Great Northern will also devote a certain number of beds within a few days. In spite, however, of the prompt and generous response of the hospitals, this action of the War Office is of decidedly doubtful wisdom and is exciting much criticism. First, because a London hospital is a chronically overcrowded institution, so that whatever beds are allotted to soldiers are taken from the poor, whose only resource in case of illness is the hospital. Second, because a city hospital-ward, although an unspeakable boon to the city slum-dweller and an immense improvement upon his ordinary quarters and surroundings, is far from an ideal health resort. To deliberately send patients from the open air of the veldt and the sea into the fog of London for their health is little short of absurd. In fact, the whole performance smacks of lack of judgment and initiative on the part of the authorities, especially in view of the scores of generous offers of beds in sanatoria and country-houses already made. A single well-built shed hospital in a bracing country neighborhood would accommodate as many patients as the scattered and hardly-spared beds of all the London hospitals put together and under much more ideal conditions for recovery. Several of the hospital boards, while patriotically offering the beds requested, have quietly but firmly remonstrated with the War Office for demanding such a sacrifice from the poor.

The Yeomanry Hospital scheme grows apace. Mr. Alfred Fripp has been appointed senior civil surgeon and Dr. Washbourn senior civil physician and a staff of twenty other civilian medical men is to be attached. Her Majesty has testified her cordial approval of the undertaking by the donation of $500 for the equipment of two beds. And Our Surgical Highness Lister has on behalf of the Jenner Institute presented the hospital with a supply of typhoid antitoxin.

Now that the death-roll at Ladysmith from enteric fever is steadily recording from three to ten names per day, a keen, practical interest is being aroused in the question of "vaccination" for typhoid. This procedure was initiated by Professor Wright of Netley Army Medical College, some three years ago, but until within the past twelve months had not been carried out upon a sufficiently extensive scale to enable any decision to be arrived at upon its efficacy. It has, however, been urged with much confidence upon the troops sent out to South Africa by the Army medical officers and a considerable majority of them are reported to have submitted to it. Hitherto almost the only reports of positive results from the vaccinations had been those of the eight subalterns in the Khartoum campaign, six of whom submitted to inoculation, while two preferred to take their chances without. Not one of the six inoculated contracted the disease, while both the others fell ill and one of them died. The other instance was that of the Kent County Asylum where during a severe epidemic of typhoid eighty-four of the attendants and staff were inoculated. Of these not one contracted the disease, while of their fellows who declined vaccination sixteen developed typhoid.

So that Professor Wright's preliminary note in the current *British Medical Journal* upon the inoculations made by him last year upon the English troops in India is pecularly timely. Although the period elapsed is far too short for positive conclusions to be drawn yet, the results seem really significant already. A reduction of the disease-rate among the 2835 inoculated to 0.95 per cent., as compared with a rate of 2.5 per cent. among the 8460 non-inoculated under observation in the same regiments, can hardly be a mere coincidence. Especially when the death-rate in the same groups for the period is 0.2 per cent. and 0.35 per cent., respectively, a reduction of nearly 40 per cent. If this rate of difference be constant, it could amount to the prevention of 1000 cases of typhoid and 200 deaths per annum in the British Army in India alone, where typhoid is peculiarly rife and responsible for 37 per cent. of the army death-rate. Certainly the inoculations upon the embarking volunteers will be carried out with even greater hopefulness and rigor in the light of these results.

Of course the vivisection and vaccination shriekers could not miss some opportunity of bringing themselves into notice through the war excitement. One of them is fiercely protesting against "poisoning" our brave fellows and numbing their intellects by injections of "decaying animal tissues," by which they elegantly refer to the typhoid vaccine. The other has lifted up its voice loud and long against the rejection of volunteers for active service on the ground of non-vaccination, which it describes as "sacrificing the interests of the Empire in support of a hotly disputed medical dogma."

The resignation by Sir John Lubbock, on his elevation to the peerage, of his seat in Parliament has given rise to a contest of singular interest to medical men. The two most prominent candidates for the vacant seat are both members of the profession, in a broad sense, Sir Michael Foster, the famous physiologist, and Dr. W. J. Collins, the late chairman of the London County Council. As the former represents the Conservatives and the latter the Liberals, the profession seems safe to be represented in the House of Commons for this borough whichever way the election goes. The seat in question is that of the University of London and the voters are the alumni of the University resident in England, wherever scattered. Fancy having Harvard represented in Congress! A slight ripple has been stirred up in medical circles by a letter in one of the journals signed "M.D.," accusing Dr. Collins of being an anti-vaccinist and urging the medical alumni of the University not to vote for him. There appears to be reason for suspecting the strict orthodoxy

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of the candidate in this respect, but we fear appeals of this sort will bring him more votes than they will cost him.

The great epidemic of influenza of the past month seems to have at last reached and passed its climax. Its death-roll last week reached only 208 names as compared with 340 and 316 the two previous weeks. The deaths from diseases of the respiratory organs also fell synchronously from 1222 and 994 to 728, which is only 41 above the corrected (10 years) average for this week of the years, so that, although the death-list is still far too high, we may hope that the worst is over. A similar decline is registered in the other large English towns, especially in the south. The rate of Brighton, which, two weeks ago stood at more than double its ordinary level (44.9 per 1000), has now fallen almost to the normal, while in the midland towns the decline is much less and in the northern Sutherland and Newcastle the rate is still increasing. Which seems to support the belief that the epidemic is sweeping over the country from south to north. Several towns, notably Brighton and Plymouth, have registered the highest recorded death-rate in their municipal history during this epidemic. In one feature it has singularly resembled our own great outburst in 1890 in the large proportion of the deaths which occurred in elderly and particularly in aged people. While we have this favorable news to give of the decline of the epidemic in Great Britain, the spread of the disease continues on the Continent. The mortality at Munich has been greatly increased thereby.

The Royal Commission upon the Water Supply of London, after sitting nearly three years, during which time two of its members have died, has at last been delivered of its report. It is unanimously in favor of the purchase of the undertakings and plant of all the Metropolitan Water Companies by the municipal authorities and their consolidation and management under a special Water Board of not less than thirty members. So far its decision is excellent, but when the report goes on to recommend purchase at practically the Companies' own valuations and declines to recommend any restrictions upon the taking of flood-water from the Thames, we fear few municipal reformers and sanitarians will agree with it. It also dismisses the superb scheme of the London County Council for bringing a really adequate supply of water from the Welsh mountains, as a project with "something attractive" about it but as quite unnecessary for practical consideration at present, inasmuch as the Thames will furnish an abundant supply until at least 1941! This is extraordinary, to say the least of it, for even supposing this sublime confidence in Father Thames to be not misplaced, when even now every droughty summer arouses serious misgivings, the date fixed is only forty years distant now and it would take at least ten or fifteen years to bring the Welsh water into London. Moreover, what as to 1942 and after?

TRANSACTIONS OF FOREIGN SOCIETIES.

German.

A NEW INSTRUMENT FOR MEASURING BLOOD PRESSURE—PARTIAL GANGRENE OF PUERPERAL UTERUS—MODERN VIEWS OF OPERATION FOR CANCER OF THE STOMACH—TRACHOMA—INTERMITTENT GOITER.

AT the Berlin Medical Society, December 13th, KAPSAMER spoke of the new instrument for measuring the blood pressure which is called, after its inventor, Gäntner's tonometer. The instrument consists of a pneumatic ring, connected through an air-tight T-shaped tube, with a mercury manometer on one side and a rubber bulb on the other. The pneumatic ring is pushed over the second phalanx of a finger, care being taken to avoid the joints. The distal portion of the finger is then made anemic by an elastic finger-cot on an elastic ring. By compressing the rubber bulb a few times the pressure of air in the apparatus is increased until it is sufficient to control the flow of blood through the finger. The finger-cot is then removed and the air in the tube is gradually allowed to escape until the pressure in the ring becomes so feeble that the finger-tip begins to redden. At that moment the pressure as indicated by the monometer is read. The blood pressure drops 10-40 mm. of mercury when a patient is anesthetized to return to normal after anesthesia. Great hemorrhage or the evacuation of large quantities of pleuritic or peritonitic fluid will cause a sudden drop in the pressure. Vomiting, the ligation of a large artery, such as the femoral, or the application of an Esmarch's bandage will cause a rise in blood pressure. In explanation of these and other instances of alterations in the blood pressure, Kapsamer says that the pressure in the blood-vessels is due to three factors: (1) The energy of the heart; (2) the resistance of the walls of the vessels, and (3) the volume of the blood. The fall of pressure during anesthesia is due to the lessened vascular resistance, since the pulse-rate remains about the same. The same is true of the fall in pressure which follows the evacuation of large quantities of fluid from the pleural or peritoneal cavity or of gas from meteoric intestines. The normal pressure is from 100 to 130 mm. of mercury. It is important to determine how low the pressure may go and life not be lost. A man with a recurrent sarcoma of the pelvis had repeatedly a pressure of 70 mm. Another with recurrent carcinoma of the leg had for some months previous to his death a blood pressure of 65 mm. After an exploratory laparotomy, a man having a large cystic tumor, was found to have a blood pressure of 60 mm. The same evening the pressure was 55 mm., but the patient apparently felt well. At midnight he was dead. An unusually large goiter was removed from a woman aged fifty-nine years. The blood pressure after the operation was 75 mm. Six days later it had fallen to 50 mm. In ten hours she was dead. A woman aged fifty-two years jumped from the second

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story. She was unconscious for a few minutes, and then came to herself; except for a few bruises she seemed perfectly well. Her pulse was normal. The blood pressure was tested and found to be only 40 mm. In thirteen hours she was dead. From these cases it appears probable that the lowest pressure compatible with life is about 60 mm.

FRAENKEL having used the tonometer for several weeks testified to its reliability. It has its limitations, however. In aortic insufficiency, for example, this instrument records a greater increase of tension than really exists. This is because it records the maximum pressure, and in the diseased condition the tension in systole is far above normal. It sinks very much in diastole, but that is not indicated by the tonometer. A second shortcoming of the instrument is the fact that it records the pressure in a small peripheral artery. Such a vessel is far more subject to contraction of its muscular walls under psychical influences than is a larger vessel. Hence it is desirable to make two separate tests to determine the blood pressure. In chronic nephritis and arteriosclerosis the pressure sometimes rises to 220 mm. The instrument will sometimes show increased pressure under circumstances which would cause it to pass unnoticed should the physician merely feel the pulse. On the other hand, in the aged, whose arterial walls are rigid, the physician's finger may tell him of high tension when in reality the pressure is far below normal.

At the session of December 20th, GOTTSCHALK showed a part of the wall of a puerperal uterus which had undergone gangrene and had been cast out through the vagina on the 18th day after labor. The woman was a primipara with a contracted pelvis. After three days of labor the head was not engaged. Version was performed and a living child extracted. The mother was much exhausted. Next day she had a chill and a temperature of 105° F. On the fourth day, the high fever continuing, the uterus was washed out with a one-per-cent. lysol solution, and then with 60 per cent. alcohol. Three days later the condition of the patient was so bad that heart stimulants were given hourly, and 24 ounces of 1 per cent. saline solution were injected subcutaneously. The patient perspired profusely, passed a great quantity of urine for a few days, and after expelling a portion of the uterus measuring 6.5 x 2 x 1 inches she finally recovered. Gottschalk attributed the gangrene to the anemia of the uterus brought about by an almost pulseless condition of the patient for two days before the birth of the child, and aided perhaps by large doses of ergot and the use of an ice-bag. The effect of the alcohol, if such existed, must have been distinctly secondary.

At the Free Union of Surgeons of Berlin, December 12th, LINDNER discussed the advantage of the Kader-Mikulicz method of operating for cancer of the stomach by the removal of lymphatic glands, as well as the tumors in the stomach. Kader admits that this prolonged operation has a higher mortality than simple excision, but he hopes that the ultimate results will be better. These hopes, *a priori*, appear to be not well founded, since merely the glands are removed, while the connecting lymphatics are left. Statistics of twenty-eight cases of recurrence also show that while recurrence was local in fifteen cases and in the neighborhood in twelve cases, it was glandular in only one case. Lindner advocated gastro-enterostomy in severe cases of gastric cancer. During the eight months previous he had performed Wöfler's gastro-enterostomy with anastomosis of the ascending and descending intestinal legs, and had to report only one death after operation and that from cardiac failure.

At the Vienna College of Doctors of Medicine, January 15th, H. ADLER spoke of the newer methods of treatment of trachoma, a disease now generally considered to be of bacterial origin. Prophylaxis is most important. In all institutions affected children should be kept away from those who have none of the symptoms of the disease. The speaker referred in detail to the various methods of treatment by caustics and by instruments. He emphasized the importance of combined instrumental and medical measures, speaking very highly of Knapp's forceps.

At the Imperio-Royal Society, January 12th, HITSCHMANN showed a young man, aged twenty-three years, who suffered from intermittent goiter. Only about twenty such cases have been reported. They are of three classes: Those which have external varicose veins but no exophthalmos; those having visible varicosities with exophthalmos, and those having intermittent exophthalmos without visible symptoms. The case presented was of the second class.

SOCIETY PROCEEDINGS.

NEW YORK NEUROLOGICAL SOCIETY.

Annual Meeting, Held January 2, 1900.

Facial and Retrobulbar Neuritis.—Dr. William M. Leszynsky presented a woman, thirty-eight years of age, who came to him first on October 11, 1898. At that time there was a complete facial paralysis of the left side, which had existed for five weeks. There was a loss of taste, but the eyes remained normal. The facial paralysis was preceded by severe pain and tinnitus in the left ear, lasting several days. She was treated by galvanism in the usual manner. Two months later, while under treatment, she complained of severe pain in the left supraorbital and left temporal regions, lasting continuously for over a week. She then became totally blind in the left eye. The pupil was absolutely immovable, and the ophthalmoscope showed edema of the papilla, but nothing else. Within a week well-marked papillitis could be detected in the left eye. The vision in the right eye was normal. Under treatment by mercurial inunctions and the

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internal use of iodide of potassium vision improved somewhat, and on November 4th, vision in the right was 22/100ths. She now has optic atrophy, and the vision is decreased. The faradic irritability has returned, but is still below the normal. A diagnosis was made of facial neuritis and a retrobulbar neuritis arising from periostitis in the optic canal. This is a very unusual condition, and for this reason the patient was presented. Dr. De Schweinitz of Philadelphia recently reported two or three cases, but in them the retrobulbar paralysis developed nearly a year and a half after the neuritis. The case also shows that a return of faradic irritability does not necessarily mean a return of motility.

Dr. G. M. Hammond asked if uremia could be absolutely excluded in the case just presented.

Dr. Leszynsky replied that there was a complete absence of all urinary signs and symptoms. The neuritis seems to have been either of rheumatic or syphilitic origin. There are some elements in the case that lead him to think it possibly of syphilitic origin.

Syringomyelia.—Dr. Joseph Collins presented a man whom he had been asked to see a few weeks ago by Dr. Powell. The latter had removed a small lipoma from the lumbar region, having no connection with the spinal cord or membranes, contrary to the opinion that had obtained before operation. The patient is thirty-six years old, and contracted syphilis nearly five years ago. Since that time he has been under almost constant treatment. He complained of weakness in the right leg, pain in the back, and slight numbness in the left lower extremity. Careful inquiry elicited the fact that while still a boy he experienced difficulty in keeping the right leg in the stirrup when riding horseback, and noted in that foot what had really been a clonus. The knee-jerk is exaggerated on the right side, and on that side there is also ankle clonus. There is absolute thermo-anesthesia from the fourth intercostal space on the left side down to the tip of the toe. The diagnosis is syringomyelia.

Dr. Richard H. Cunningham said that he remembered having tested the sensation of this patient some time ago, but did not recall the existence of thermo-anesthesia. He looked upon the case as one of tumor of the cord, and not as essentially syphilitic.

Dr. Pearce Bailey said that several similar cases had been met with at the Vanderbilt clinic during the past three or four years. It is the custom there to examine regularly for such anesthesia, and while the individual case could not be recalled, it is exceedingly probable that if thermo-anesthesia had been found it would have been noted and remembered.

Dr. M. Stieglitz was inclined to accept Dr. Collins's view of the pathology, although it is unusual to find such extreme spasticity in such an early stage. He would like to know if there is any muscular atrophy present anywhere in the body, and if there is any change in the sympathetic supply to the eyeball.

Dr. C. L. Dana also looked upon the case as one of syringomyelia. Some of the cases of slowly developing spastic paralysis without sensory symptoms seemed to him to be really examples of early multiple sclerosis. He had seen such cases develop characteristic eye symptoms after a good many years.

Dr. Graeme M. Hammond said he had an opportunity of examining this man, and agrees entirely regarding the clinical symptoms. He accepts the diagnosis given by Dr. Collins This case is certainly not one of recent development.

Dr. Joseph Collins, in closing, said that the right lower extremity is one inch and a half smaller than the left. There are no ocular symptoms, and no vasomotor disturbances of the face. There might have been in the beginning an area of gliomatosis which, at first, had connected with the central canal.

Tumor of Aqueduct of Sylvius or of Cerebellum.—Dr. Collins presented a boy of eighteen exhibiting all of the cardinal symptoms of tumor of the aqueduct of Sylvius or of the cerebellum. About three years ago it was first noticed that he was lethargic. Fourteen months ago, while climbing into a window, he fell and shortly after this he began to vomit and suffer from periodic headaches. These were followed by increasing sleepiness, and by a disturbance of the gait. His limbs can be thrown around, and the joints bent backward in a remarkable way. The knee-jerks are feeble. There is no nystagmus, and no true cranial nerve palsies or ocular palsies. Both eyes show choked disk and slight pigmentation.

Dr. C. L. Dana thought this peculiar drowsy condition characteristic of tumors in the aqueduct of Sylvius, and extending forward into the third ventricle, yet, in other respects, the symptomatology is that of a cerebellar tumor. If the tumor were in the aqueduct of Sylvius it could not be causing much distention or infiltration, or there would be some eye symptoms. The weight of the evidence seems to favor a tumor in the cerebellum. It is possible that the double-jointed condition was increasd by his present affection.

Hemorrhagic Encephalitis and Myelitis.—Dr. Charles L. Dana and Dr. M. G. Schlapp presented this report, which was read by Dr. Dana. The subject is a man of sixty-seven years of age, who came under observation last June. There is no clear history of intemperance. His previous health has been good. During the last seven years of his life he has been somewhat of an invalid. On June 4, 1899, he complained of headache, and after taking two cups of tea went to bed. He fell out of bed a few hours later, and then discovered a left hemiplegia. He was removed to Bellevue Hospital. At that time his temperature was 104° F., but it quickly fell. On examination, he could not protrude the tongue, which was immobile. He was paralyzed almost completely on the left side. The lips were markedly affected. The abdomen was somewhat rigid. The patellar reflexes were normal, and ankle clonus was absent. Sensation to heat and cold was normal.

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The urine showed nothing abnormal. Four days after admission he had a chill and the temperature rose to 105.5° F., and examination of the blood showed the malarial plasmodium. After having been in the hospital for one week it was noted that there was no paralysis of the right arm or leg, and the most notable feature was the paralysis of the tongue and lips. He was unable to make any distinct articulate sounds. He could swallow and cough, and understood perfectly what was said to him. Death occurred on June 25th. At the autopsy, made by Dr. Dana, only the brain and cord were examined. There was slight edema and congestion of the arachnoid. The vessels of the base were not atheromatous. In the right hemisphere was anarea of capillary hemorrhage and softening in the lower portion of the posterior central convolution, and superior part of its marginal gyrus. It involved mainly the deep part of the upper lobe of the fissure of Sylvius. In the centrum ovale were two or three smaller areas of hemorrhage. There was no evidence of hemorrhage or softening in any other part of the cerebrum, cerebellum or pons. The spinal cord showed two foci of softening, one in the upper dorsal and the other in the lower. The brain was hardened in formalin, and then stained by various methods. The microscopical examination showed in the affected area much dilatation of the blood vessels, small extravasations of blood, a great proliferation of cells, showing an irritative reaction to the hemorrhage—in other words, the evidence of an encephalitis, apparently secondary to the disease of the blood-vessels. There were also small areas of softening of the brain in the neighborhood of these hemorrhages, also the result of the breaking and obliteration of the vessels. The walls of the latter were somewhat thickened, but gave no evidence of syphiltic process. Sections and drawings were exhibited. The examination of the rest of the brain failed to show any evidence of sclerosis. The medulla showed no evidence of softening or of inflammation. Examination of the spinal cord has not yet been completed. The cord showed a small center of poliomyelitis in the dorsal region. Below this is a more extensive poliomyelitis, involving both the anterior and posterior horns. The appearances closely resemble those described by other writers on encephalitis hemorrhagica. Regarding the occurrence of speech disturbance in a case of this kind, Dr. Dana said that in the great majority of cases of this form of hemiplegia there is no speech disturbance except a few days after the attack, which might easily be ascribed to shock. In another class of cases of hemiplegia there is a slight uncertainty in speech, lasting for several months. In still another class the hemiplegia is associated with some difficulty of speech, and sometimes with true aphasia. He had never observed any sensory aphasia in these cases. When the lesion is well below the cortex, involving the motor neuraxons and the collaterals going to the opposite hemisphere, there will be some hesitation in speech; when the lesion is still lower down, disturbances of speech are absent. There is a very general opinion prevailing to the effect that bulbar palsies of cerebral origin are due to lesions in the lenticular nucleus, but our present knowledge of the anatomy of the brain makes such a view untenable. Concerning the disturbance of the tongue, the speaker said that Dr. Collins, who has given a critical description of this subject, placed the tongue center in the anterior and upper part of the foot of the anterior central convolution. Some of the centers of the movement of the tongue are probably deep in the fissure of Sylvius, and not subject to experimental stimulation. In the case under discussion it is interesting to note that mastication and deglutition are not impaired. The case also brings up the subject of non-suppurative encephalitis. It seems to be established that there is an infectious hemorrhagic encephalitis in infants; also that there is a hemorrhagic poliomyelitis in adults; also an acute hemorrhagic encephalitis of adults due to some acute infection such as influenza. In the case presented there is a distinct history of malarial infection and of alcoholism, and this combination, it is reasonable to suppose, is responsible for the lesions discovered. Such a case might be classified under the name of degenerative hemorrhagic encephalitis. An examination of the autopsy records of 67 cases of apoplexy showed that 42 of them were hemorrhagic, 11 embolic, and 11 thrombic, and 3 encephalitic.

Dr. E. D. Fisher agreed with the reader of the paper that, in a small percentage of cases, there might be an encephalitis, and that the spinal cord might also be involved. He had seen cases affecting the right hemisphere in which the aphasia was permanent. It is not common, of course, for such persons to lose the memory of names and things, but he can recall a few such cases. He did not believe there are enough fibers passing over from one side to the other to account for that. The right hemisphere is the region in which the center of speech is fixed, and while it is more accentuated on the left, the right cannot be entirely excluded. This belief is based on clinical experience.

Dr. B. Onuf thought that, as a rule, dysarthria rarely occurs in connection with lesions of the internal capsule; it is more often met with in lesions of the cortical foci. It is most frequently observed with lesions of the left hemisphere. To explain this he assumes that all the articulatory muscles are represented in each hemisphere, and that the center of the right hemisphere is subordinated to that of the left hemisphere through the fibers of the corpus callosum. If there is a lesion of the right hemisphere there may be a temporary dysarthria; if, however, there is a lesion of the left hemisphere the dysarthria would be permanent. On the other hand, if the lesion were in the internal capsule, whether on the right or on the left, the dysarthria would occur. If the dysarthria were marked it could be stated almost certainly that the lesion is in or near the cortex. He believes that there is a double speech center, and

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that that of the right hemisphere is subordinated to that of the left.

Dr. Fisher asked Dr. Dana whether he had noticed any difference in the character of the articulation in the first few days between a right hemiplegic and a left hemiplegic. Personally, he has found as much difficulty in the one case as in the other.

Dr. Collins thought the paper most interesting because adequately proving that a single lesion is capable of producing diffuse and multiple lesions in the central gray matter. It is the first communication of the kind ever presented in this country. The paper called attention to the possibility of an acute malarial infection giving rise to such a process. The changes discovered in this examination are those which might be expected theoretically. He does not see how this report could have much effect on the question of aphasia because serial sections of the entire length of the medulla oblongata were not presented—indeed, he is doubtful if the patient had true aphasia. There might have been an affection of the central allocation of the tongue not implicating the muscles of the lips and palate, in part due to the very small focus of inflammation in the medulla oblongata. The explanation given by Dr. Onuf was the one that he has himself long held, and which is the same given by Dr. Dana in this report.

Dr. M. G. Schlapp said that the inflammation in the medulla seemed to be a very recent one. There is a small round-cell infiltration, but the large proliferating cells found in the cortex are not present. The infiltrating stage and the proliferating stage are both represented in the cortex.

Dr. Dana, in replying to Dr. Fisher, stated that his experience has been that dysarthria occurred about as often with right hemiplegia as with left, and that dysarthria is practically due to the size of the lesion. If the lesion be very large and the hemiplegia complete there is almost always dysarthria. Where there is only slight hemiplegia associated with dysarthria it is probable that the lesion is high up in the cortex, or involves a part of it. He thinks that this case illustrates dysarthria rather than aphasia. The weight of evidence in this case seems to indicate a paralysis of the tongue is the result of a cortical lesion—a sudden apoplectic lesion. There was no hemorrhagic process in the medulla.

Lead Paralysis with Autopsy.—Dr. B. Onuf reported this case. The patient is a man, thirty-seven years of age, with a good family and personal history. He was a painter for many years, and had one attack of lead-colic some years ago. A short time ago he had a severe fall, and for some days afterward appeared in a dazed state. From March until August he had not painted; then he began painting again with colors containing a large percentage of lead. He kept this up during the month of August, but during this time suffered frequently and severely from colic. At the end of August he became quite ill, and, in three or four days, was almost helpless in the lower extremities and in the left arm. On admission to St. Catherine's Hospital, in September, 1899, there was complete flaccid paralysis of both lower extremities; absence of both knee-jerks; marked tenderness of the nerve-trunks and muscles of the lower limbs. There was also paralysis of the flexor muscles of the left arm and of the extensors of the fingers. The gum showed a "lead line." Under diaphoretic treatment the spontaneous pain ceased. On October 4 he had an attack of severe dyspnea, and on the following morning died in a second and similar attack. The extensors and flexors of the right arm were wasted, as were also the peroneal muscles and the flexors of the thigh. The left lung was the seat of a bronchopneumonia. Microscopical examination showed what appeared to be a poliomyelitis of the anterior horns. The parts examined so far are the second and fifth lumbar, and here and there is an enormous infiltration of the walls of the blood-vessels with round cells. This infiltration of cells is so extensive as to lead to very general distention of the nerve cells. The anterior roots are markedly affected, but the posterior roots of the lumbar are normal. The plantar nerve shows increase of connective tissue and endarteritis obliterans. The liver was examined by Dr. Bookman for lead, but none was found. As five weeks had elapsed such evidence is not of much importance.

Dr. L. Stieglitz said that this case showed in the human being exactly what he found in his case of experimental lead-poisoning. In experiments on 36 animals he obtained in one guinea-pig only an acute poliomyelitis at the post-mortem, and also cell infiltration and more or less destruction of the nerve-cells around the foci. This guinea-pig was acutely paralyzed. Death occurred within twenty-four hours. In his experimental cases he obtained, in every instance, changes in the ganglionic cells themselves. The case presented in the paper is, of course, an atypical one of lead-poisoning, and hence would not justify any conclusions regarding the ordinary pathology of lead-poisoning. The cases reported by Oppenheim and by Herter seem to him the most typical.

Dr. E. D. Fisher thought the clinical history of this case corresponds more with that of alcoholism than of lead-poisoning. As a rule, in cases of lead-poisoning the lower extremities are the parts first involved. He had written on this subject some years ago, and called attention to the occurrence of these degenerative changes in the brain and cord in cases of alcoholism. Apparently the case reported combines both alcoholism and lead-poisoning. The changes in the central nervous system were pretty well established.

Dr. W. M. Leszynsky said that it also seems to him that the reader of the paper has not proved the connection between the lead-poisoning and the post-mortem findings. Certainly the case appeared to be one of alcoholic toxemia, or of some acute infectious process.

Dr. Hammond said that while it is very probable that the man suffered from lead-poisoning, he doubts very much if the lead had anything to

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do with the condition of the spinal cord; it is much more probable that it was the result of some acute infectious process. He does not believe that a case of true lead toxemia has been reported in which such changes in the nervous system were observed.

Dr. Cunningham said that some weeks ago he met with a case of lead-palsy in a man who at the same time developed a mild form of influenza. The phenomena observed were quite similar to those reported in the paper.

Dr. Collins also took the ground that in addition to the lead-poisoning there had been an alcoholic neuritis, or some acute infection giving rise to the changes in the spinal cord.

Dr. Onuf said that by reason of the frequent attacks of colic during the last few weeks the man had been unable to work and this seemed to show the close connection between the lead-poisoning and the other symptoms. Cases of alcoholic neuritis usually present quite a different picture from that exhibited by his case. The autopsy revealed evidence of a certain amount of alcoholism, it is true, but the man had not been drinking for a considerable time previously. There was no history of an acute infectious process.

NEW YORK ACADEMY OF MEDICINE.—SECTION ON PEDIATRICS.

Stated Meeting, Held January 11, 1900.

Thomas S. Southworth, M.D., Chairman.

Spina Bifida.—Dr. Sarah Welt Kakels presented a patient with this anomaly. There had been a normal birth and the infancy had been normal. The child does not seem to suffer any pain in the tumor except when it becomes red and inflamed from some external irritation. The coccyx in the case deviates slightly to the left and the cystic tumor of the spinal bifidi is also to the left. Pressure upon the tumor seems to cause no medullary or cerebral symptoms. The tension of the tumor increases when the child cries or coughs. There is a good chance to see this in the case, as the patient is at present suffering from whooping-cough. The tumor is made very prominent on coughing. These tumors are more frequent in females and are usually accompanied by other anomalies. In this case, however, the child seems to be perfectly well except for the presence of the spina bifida itself. Just above the tumor the characteristic dimple of spina bifida can be seen.

Dr. Vanderpoel Adriance presented a macerated specimen of an anencephalous monster. The cerebrum in the case was absent and all the bones covering the side and vertex of the head were absent, or extremely rudimentary. The bones in the upper part of the face were defective in the same way. The cerebellum was practically complete and the bones at the base of the skull were perfectly normal.

Dr. Charles G. Kerley presented a series of light splints which prevent flexion beyond a right angle and so make it impossible for a child to scratch its face, or to rub its nose, or pull its ear, or rub its eyes in any of the irritative affections of these parts. They would also prevent thumb-sucking. Despite the presence of the splint children have so much movement in their shoulder-joint that they are still able to reach the top of their heads, so that in eczema capitis it is necessary to pin the sleeve to the dress in addition to the splint. There was also a splint to prevent masturbation. Extension of it is possible only as far as a right angle or even less. It is intended to be worn only during sleep, or when the child cannot be under observation. Then it serves its purpose very well.

Dr. Herman, said in discussing the subject, that the cases in which such appliances are most needed are among the very poor. For them the expense of a splint is too great. In the European clinics the custom is to put cardboard cuffs on the children that prevent flexion at the wrist, and fasten their arms by a piece of tape or a shoestring that passes around the back. This is very simple and costs practically nothing.

An Epidemic of Measles.—Dr. Vanderpoel Adriance reported the statistics of an epidemic of measles at the New York Nursery and Child's Hospital. While in private practise measles is an extremely simple disease, involving very little mortality, in hospital practise it is the most serious of the children's diseases. Its mortality is apt to be high, it is very contagious and the contagion endures for a long time. The difference between the contagiousness of scarlet fever and measles is well illustrated by the condition of affairs at the hospital during the present summer. One case of scarlet fever developed in the wards and was immediately segregated. Only one other case of the disease developed as the result of the exposure of the children. Measles occurred and in spite of the most careful precautions continued during the whole summer. Altogether 96 cases were treated. It is often said that measles protects very well against second attacks, but that is not the experience at the Nursery and Child's Hospital. In 16 of the 96 cases the attack was the second one. In 14 of these 16 cases the former attack of measles was not assumed to have taken place on the word of the mother, or any imperfect history, but because the patient had been actually under observation at the hospital during the preceding attack. Diphtheria is the most frequent complication. Once diphtheria has gotten into a hospital ward it is extremely difficult to get the contagion out. In 36 cases of diphtheria complicating measles, there were but four deaths. This very limited mortality is due to early diagnosis and to the free use of diphtheria antitoxin.

While the death-rate of simple measles was 15½ per cent. that of the measles complicated by diphtheria was only 11 per cent. Measles is especially severe in very young children. Below

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the age of two the death-rate was 36 per cent.; above that age it was only 5 per cent.

Koplik's Spots in Measles.—In 79 cases the careful examination of the buccal mucous membrane was made for Koplik's spots. In 76 per cent. of the patients they were found. In 20 per cent. of the patients they were noted before the rash on the body appeared. In one case it was four days before the cutaneous exanthem, in two cases it was three days, in four it was two days, and the average time of its appearance before the rash on the body was about 36 hours. Its appearance, however, it not sufficiently early to enable it to be of any prophylactic importance. Dr. Koplik himself has expressed the opinion that the early diagnosis of measles, made possible by the discovery of these spots, would enable hospital authorities to segregate measles cases before they have been any serious source of contagion to other children. This does not promise to prove true in practise. Considerably before the appearance of Koplik's spots the catarrhal stage of measles is already well marked. It is now generally agreed that the disease is especially contagious during this catarrhal stage and before the appearance of any exanthem. For the discovery of Koplik's spots good, bright daylight is absolutely necessary. A certain amount of experience in finding them is also a requisite. Frequently they will be missed by one not used to looking for them and be found only after repeated examinations. Observations made under gas-light are practically of no value in the matter.

Dr. J. Sobel said that he believes that Koplik's spots are always present in measles. He has seen a large number of cases, several hundred during the last two years, and in every case in which he has been able to look for them with sufficient care he has found the spots present. They occur from a few hours to five days before the eruption on the body. Where a measles-like disease occurs and these spots are not found the disease is probably German measles. These spots constitute the differential diagnostic sign for the two diseases. There are other signs by which German measles may be distinguished, although they are not so constant. German measles comes on more suddenly, that is, without the preliminary catarrhal period. There is usually less fever, from 99.5° to 101° F. The spots are concentric and crescentic in shape. There is a velvety feel to the skin and the posterior cervical glands are enlarged. Then, there is a lack of correspondence between the severity of the eruption and the illness of the patient. There may be a very widespread, abundant eruption and very little disturbance of the patient's feeling. German measles does not protect against the ordinary form of measles, and care must be taken that children that have had one are not needlessly exposed to the other. For the discovery of Koplik's spots a good light is absolutely necessary. Gas-light should not be used. The child's cheek should be thoroughly everted and direct daylight from an open window used.

Dr. J. Howland presented the statistics of 61 cases of measles at the New York Foundling Hospital. Altogether there were only four deaths. All pneumonia cases were specially quarantined from the other children as soon as the pneumonia was discovered. All of the deaths were among the penumonia cases. One of the reasons for the comparatively small mortality was the frequent cleansing of the wards. At the end of each week all the children were removed from a ward and it was freely carbolized and treated several times to the vapor of formalin. All of the measles cases were immunized against diphtheria by the injection of from 250 to 400 units of antitoxin. No diphtheria occurred. There was no noma, though there were three cases of very severe ulcerative stomatitis. There was also measles at the country branch and altogether in 51 cases Koplik's spots were carefully looked for. They were found in 84 per cent. of the cases. In one case, four days before the eruption on the body, in two cases three days before that eruption, in six cases two days before, in 15 cases 24 hours before, and in 20 cases just as the eruption appeared. In 7 cases they were not found until after the eruption on the body had reached its height. Usually about the time that the eruption on the body was at its maximum, the spots on the buccal mucous membrane began to fade and soon disappeared.

Dr. Milner said that Koplik's spots are especially valuable for differential diagnostic purposes. They enable us to recognize at once the eruptions that occur after antitoxin and to differentiate measles from German measles. Dr. Lipmann said that while the name, Koplik's spots, was a very proper one since Koplik's observations and writing had made them of practical value for the general practitioner, it must be remembered that Flindt had described them as early as 1880. Flindt had also noticed their presence on the conjunctiva in certain cases. Dr. Lipmann has recently seen a case in which the spots were on the conjunctiva. It is evident that for the early diagnosis of measles there is no better sign, and it should be made the duty of hospital interns in all cases where measles exist in a hospital to examine the mouths of the children carefully twice a day in order to segregate the measles cases from other children as soon as possible.

Recurrence of Measles.—Dr. Mabbot said that the occurrence of attacks of measles in 16 per cent. of the cases in Dr. Adriance's statistics seems entirely too high and he can only think that some source of error must exist. Undoubtedly cases of German measles are frequently mistaken for ordinary measles in reports of second attacks. Koplik's spots will especially be of value to the medical profession if they enable the general practitioner to differentiate these two diseases with certainty.

Dr. Mabbot described the system in operation at one of the hospitals in New York City by

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means of which the Board of Health's Report as to the existence of contagious disease in any particular locality is made available to enable the hospital to guard against the admission of contagious diseases to its wards. A tabulated record is kept of the exact location of every case of contagious disease that is reported by the health authorities. Visitors who come to the hospital from infected houses are excluded. Each visitor is asked to give his or her address and it is the duty of the door attendant to note whether the address is that of a house in which contagious diseases exist. When patients apply for admission the same rule is put in effect. In this way the hospital is able to guard much more effectually than before against the admission of contagious diseases.

Dr. Kerley is of the opinion that measles does not protect from second attacks as much as has been thought. The predisposition to repeated attacks of measles seems to exist very distinctly in certain families. There is one family in which he has seen within this last year two children have two distinct attacks of the disease. In both attacks Koplik's spots were noted. The mother of the family, an extremely intelligent woman, has assured him that each of her other two children has had two attacks of measles and one of them has had three. It is a tradition in the family that the children acquire measles whenever they get the slightest opportunity.

Dr. Freeman said that he has seen measles run its course without Koplik's spots and that he has seen the spots where no measles existed and where the disease did not develop afterwards. It does not seem safe, then, to segregate children because of the spots alone, as they may thus be exposed to the disease at a time when they are not already infected.

Dr. Herman said that Koplik's spots were especially valuable to the medical inspector of schools. A careful examination of the buccal mucous membrane enables one to exclude children from school two and three days before the disease would ordinarily be discovered. A considerable amount of exposure of the other children at the school is undoubtedly saved by this means and the spread of an epidemic of measles greatly diminished.

REVIEWS.

A Pocket Text-Book of Theory and Practice of Medicine. By GEORGE E. MALSBARY, M.D., Assistant to the Chair of Theory and Practice of Medicine, Medical College of Ohio, Cincinnati. Illustrated. New York and Philadelphia: Lea Bros. & Co., 1899.

A BOOK on the practise of medicine must indeed be very extensive to include all the facts and data which have been added in the last decade, and nothing short of voluminous and comprehensive systems of medicine can fulfil every indication for a complete work on the subject. This handbook, which is included in the series of pocket text-books, is an excellent little work and is an admirable exposition of the subject dealt with. It is pleasant reading and will appeal to every student and general practitioner who wishes to consult a ready reference book on medicine. The chapters on infections, intestinal and blood diseases are full of instructive details. It covers the entire subject of general medicine and is thoroughly modern, and is written in a careful and pleasing style. This volume we are sure will find favor with the profession.

An Introduction to Dermatology. By NORMAN WALKER, M.D., Fellow of the Royal College of Physicians of Edinburgh. New York: Wm. Wood & Co., 1899.

THIS work is exactly what it claims to be, namely, an introduction to the study of dermatology. It covers the subject of skin diseases in a very comprehensive manner, and, while making no pretension to exhaustiveness, it nevertheless treats of the various lesions fully enough to enable the student and general practitioner to acquire a very good knowledge of them.

A good deal of attention has been paid to the histopathology of the more important diseases and the most cursory examination of these parts shows the author to be a man who is well acquainted with the latest scientific work in his specialty, and with the most recent theories.

The book is profusely illustrated. Some of the plates are in colors, and although the majority cannot be said to be very truthful reproductions, they still give the reader some idea of the appearance of the various lesions.

Treatment of Ozena.—During the winter months the patient should take cod-liver oil, or, if this is not well borne, the following mixture:

℞ Ammonii chloridi .....gr. xv
Potassii iod .....℥i
Syr. gentian .....℥viii
M. Sig. One tablespoonful twice a day.

Or, he may instead, take from 1 to 20 drops of a 1 per cent. solution of iodide of arsenic, the dose depending on the age of the patient.

If hereditary syphilis is suspected, the medicine should be ordered accordingly. It is advisable to make a change in the irrigating fluid from time to time, say once a month, sometimes usin gthe following, recommended by *Moure.*

℞ Ac. carbolici .....℥vii
Glycerini .....℥iiiss
Spiritus (90 per cent.).....℥ii
Aquæ .....℥xii
M. Sig. One tablespoonful to the liter of tepid water.

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ORIGINAL ARTICLES.

AN IMPROVED OPERATION FOR ACUTE APPENDICITIS OR FOR QUIESCENT CASES WITH COMPLICATIONS.

BY ROBERT F. WEIR, M.D.,
OF NEW YORK;
PROFESSOR OF SURGERY IN THE COLLEGE OF PHYSICIANS AND SURGEONS, COLUMBIA UNIVERSITY.

HOWSE, in 1879, was among the first to split, rather than cut, the muscular layers of the abdominal wall in an endeavor to secure a sphincter effect in an artificial opening into the alimentary canal. While this was imitated by many surgeons in the rectus muscle when a gastrotomy was resorted to, it was more nearly perfected by Maydl in 1888, when he planned an intermuscular separation in connection with the establishment of an artificial anus in the left iliac fossa. But no one resorted to this procedure for entering the abdominal cavity for operative work with a view to secure thus, from the subsequently replaced muscles and their fascia, a restored abdominal covering that would effectually prevent the occurrence of hernia until the efficacy of this method was made known to the profession by McBurney, in 1894. The test of experience has fully confirmed the judgment of this surgeon, who considered it as applicable to the ablation of the appendix in a state of quiescence from a still unquenched fire. It yet remains as the operation *par excellence* for this class of cases, and a recent experience has confirmed to me its utility in a manner that is not common. In a patient who had been operated upon by the McBurney method (*i.e.*, muscle separation after dividing the fascia of the external oblique for a distance of about three inches and then transverse division of the transversalis fascia and the peritoneum) for a supposed chronic appendicitis, and from whom a kinked appendix was removed, a second laparotomy was afterward demanded for the continuance of pain which, as time went on, revealed as its cause an enlarged right ovary. This was performed nine months subsequent to the first operation. The second skin incision was parallel with and close to the first, and on exposing the fascia of the external oblique muscle, save at one or two slight points where the skin adhered cicatricially, no trace whatever of damage was to be found in the fascia itself even when widely exposed, nor was there in the muscular layer, when hunted over in the new separation, to be found more than occasional traces of increased connective tissue. Had one not been on the lookout, it might have been supposed to have been a virgin operative field.

McBurney's limitation of this operation to those cases where inflammation was absent or where its traces were slight, as far as external evidences went, has been shown to be a wise one. For, as all operators know, even in the so-called quiescent stage the appendix may be bound down with adhesions or abnormally displaced, or even at times be associated with unexpected, although small, suppuration about or near it. These complications would occasionally demand more room than that which would be obtained by stretching the separated vessels from the iliac spine to the edge of the rectus muscle. This space will seldom average more than two inches in transverse width, although the opening can be pulled down to a little greater width in a vertical direction. Increased space was obtained to meet these conditions by other surgeons who endeavored to use the excellent method in acute cases of appendicitis by incising the median end of the intermuscular space upward along the edge of the rectus. This certainly gave more room, but the abdominal wall was correspondingly weakened and its repair could not so satisfactorily be obtained by the buried sutures that were necessarily applied. My own experience in this enlargement was not a satisfactory one and for some time I balanced in operating for acute appendicitis between the old incision through all the tissues of the abdominal wall and the enlarged (and hence much deteriorated) muscle separation method.

Some two years since, being led to it by the experience obtained since 1894 in the oblique incision for gall-stone surgery, wherein additional room was had by incision of the rectus sheath, drawing the muscle to the median line and then dividing the posterior fascia, I ventured to increase the intermuscular space of McBurney by similarily treating the rectus at this lower level. I was at first hampered by the difficulty of dragging the median edge of the divided fascia of the external oblique sufficiently far inward to expose amply enough the anterior sheath of the rectus muscle. For the past six months the procedure has been simplified and made more desirable by tearing off, with the finger-tips or with the end of a blunt scissors, the already denuded fascia of the external oblique muscle from the sheath of the rectus quite up to the median line where it is held retracted by an assistant. The anterior sheath of the rectus is now divided transverely in a line continuous with the opening made in the peritoneum by the original muscle separation operation. The outer edge of the external rectus muscle is then lifted up with a director or the end of blunt scissors and carried by a retractor also to the me-

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dian line or as near as may be desired. On the thin transversalis fascia, with the peritoneum underneath it, that here makes up the posterior sheath of the rectus will be seen the epigastric vessels which should be seized, divided and ligatured and sometimes pulled outward, and the sheath and peritoneum cut in a manner similar to the outer sheath. When blunt retractors are now passed into the peritoneal cavity and the abdominal wall put on the stretch, there is a very superior exposure of the whole pelvis and of the right iliac fossa. Indeed, I have never before been able to command these parts so well until exposed by the incision, and particularly is it so if the gravity action induced by a sand-bag under the right hip or by a Trendelenburg position judiciously used after the removal of infecting inflammatory fluids.

During the past year I have systematically used this operative procedure in twelve cases. In three of these there were unlooked-for complications in the removal of a quiescent appendix. One was a tubo-ovarian case, already alluded to, and the other a case of ectopic gestation, wherein the first attack of pain one month before the second was associated with a tumor in the appendicular region and in which in the last attack the ordinary evidences of hemorrhage were not marked and the symptoms pointed simply to an appendicitis. Here the removal of the three-months' fetus and sac and of the numerous clots was most readily accomplished and the necessary irrigation of all parts of the abdominal cavity obtained by the wide space given by the rectal sheath incision. In all of these five cases the wound was tightly and promptly closed, first by sewing together, with No. 1 catgut, the posterior sheath of the rectus with its continuation outward of the transversalis fascia and peritoneum up to its outer angle near the anterior superior iliac spine. Then the rectus muscle was dropped back into its place, its front sheath closed by interrupted sutures of chromicised No. 1 catgut, a special suture fitting neatly the outer border of the sheath. After this the abdominal muscles were allowed to come together and held generally by one or two simple No. 0 catgut stitches and, finally, the incised fascia of the external oblique is closed with a similar catgut continued suture, and the skin brought together with fine black silk interrupted stitches. Not only the anticipated primary union has occurred, but from no damage being done to any of the nerve supply of the rectus muscle, no bulging or weakness of the abdomen has been produced.

Of the seven other cases there was in six more or less severe suppurative or gangrenous appendicitis and in one so extensive a peritonitis showed itself that it might have been classed by some as general, but being somewhat skeptical about cures in such forms of peritonitis and from the scattered but well-formed lymph patches that were present, I considered it an extensive but not a general invasion of the abdominal cavity. For its treatment after the amputation of the gangrenous and perforated appendix, a nearly complete evisceration, cleansing and irrigation with hydrogen peroxide solution of the major part of the small intestines were undertaken and free irrigation and wiping with one-yard pieces of gauze of the partly emptied and fully exposed peritoneal cavity. The wound was then closed as narrated, save that in this case as well as in the five others, a space the size of a quarter-of-a-dollar or less was left in the various layers of the abdominal wall at about the middle of the skin incision through which were carried wicks of iodoform covered by thin rubber tissue (not gutta-percha, as this easily breaks off) to allow of easy withdrawal. The peritoneum, fascia, and muscle were closed by suture up to the drain. A provisional suture of chromicised catgut is occasionally left to close the opening a day or so after the withdrawal of the drain. More time is required to test the value of this extension as to hernial protrusions which are stated by Coley to occure once in twenty times in the older style of cutting through the entire abdominal wall and in which drainage is used. Even although little or naught should be gained in this direction, which I cannot think possible, the great advantage obtained by the full exposure of the central part of the pelvis and abdomen must enable a surgeon to care much better for infectious lesions now often beyond his ken.

It is further believed, since Abbe has shown that the kidney can be reached by intermuscular separation, that with this utilization of the rectal space, plus the muscular separation, more ease of surgical work can be attained in liver and gall-stone surgery. Bevans' access to these regions is largely due to the use of this means.

THE BUBONIC PLAGUE.[1]

BY EDWIN KLEBS, M.D.,
OF CHICAGO, ILL.

WITH the enormous disasters resulting on the widespread extent of the bubonic plague in medieval times and especially in the English-speaking countries in the seventeenth century in mind, it is hardly surprising that its occurrence should be dreaded at the present time, especially when it is remembered that this plague still devastates Asia, and that improvement in travel promotes the spread of germs. The question whether a recrudescence of the plague in Europe is likely to occur can only be answered after an analysis of the better known conditions of the biologic character of plague germs and of the clinical aspects of the disease in man and animals. Knowledge of the first practically began with the determination of the plague bacillus (Bacillus pestis bubonicæ) by Kitasato and later (1894) by Yersin. In the preparation of the present lecture I have analyzed for data about forty papers upon the subject in order to furnish facts which will be of assistance in determining methods of ascertaining the danger of this plague and the means of combating it. In discussion of these questions the cause of the bu-

[1] Read before the Chicago Medico-Legal Society, December 2, 1899.

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bonic plague must be considered first; second, the disease, and, finally, prophylaxis and therapeusis.

The plague bacillus has been demonstrated beyond a doubt to be the cause of bubonic plague, since every phase of Koch's law has been fulfilled by it. The bacillus pestis bubonicæ has a small, rod-like appearance. It is one micromillimeter in thickness and from three to five times this dimension in length. Under favorable conditions, in fluids, it forms chains, every link of which, dividing repeatedly, produces diplobacilli. If the growth be rapid there are formed coccus-like varieties. If the temperature is too high or the nutrient medium is not perfectly adapted there arise degenerative or monstrous forms which serve a useful purpose in diagnosis. They can be produced for that purpose, as has been recommended by E. H. Hankin of Aga, India, if cultivation be made on agar containing two-and-a-half to three-and-a-half per cent. of sodium chloride. It is easier, however, to raise the bacilli first upon the usual pepton-agar and later transfer it to the salt agar (Hankin and Leuman). These degeneration forms are not endowed with lesser power of infection than the regularly grown forms. They seem partially affected by plasmolysis, forming large round, oval or club shaped bodies, often clostridium-like; sometimes they present large and irregular masses, threads, branched forms and networks and seem to consist of a gelatinous substance excreted from the organism. This substance is frequently found in older cultures of the plague bacillus in the form of round globules of different dimensions staining very deeply in dilute carbolfuchsin.

In a culture which I received from Kral of Prague, these forms were abundant and were in puzzling appearance contrasted with the more lightly colored bacilli. It has not yet been ascertained whether these forms are also present in bubonic pus, but it has been noted that the pus of buboes seems to contain cocci which may be a misinterpretation of the presence of the globules.

Staining of the plague bacilli may be effected by alkaline analine dyes, but is never very intense; if not, polar globules are present, which is not the case in every culture. The plague bacillus grows best on normal agar and gelatin media without addition of glycerin on sugar. It forms in the stab and streak, first transparent colonies, which later exhibit a whitish, then a yellow tinge, and then become granulated. The larger forms are surrounded by a slight iridescent area. The most favorable temperature is seemingly somewhat under 36° C. Kitasato was of an opinion that this bacillus was mobile but later observers deny this. My cultures not being fresh ones cannot settle this question. The plague bacillus is most readily demarcated from cocci by decolorizing in the Gram treatment, by the absence of spores and by the degeneration forms. Gabritschewsky has seen capsules stained with Loeffler's blue, whereas the bacilli were stained red by carbolfuchsin. This may be the commencement of degeneration or formation of the glutinous substance.

The general belief is that the plague bacillus is easily destroyed by drying and cannot live a long time in water. There are observations which seem to show the contrary. Kasanski found that the bacillus lived in the water of the water supply of Kazan from ten to forty-eight days; in milk twenty-six and in urine sixty-two days. His observations have been confirmed by W. E. Abel both as to sterilized and non-sterilized water. Nadjesda K. Schultz, working under supervision of Nencki claims to have found spores in a culture on addition of a small quantity of phenol. The plague bacilli, according to C. P. Gladin, do not die readily on drying. He found that in drying them on cover-glasses in a temperature of from 14° to 24° C. they lived from one to nine days. Dried upon silk threads, they lived from one to twenty-one days; upon thicker cloth, fourteen days; upon rough linen twelve to twenty-six days. It is generally conceded that the plague bacillus, in fluid media, is readily killed by heating it to 58° or 60° C. Toptschieff found that it was killed in test tubes by heating at 58° C. for eight minutes and in capillary tubes for four minutes. Temperatures below zero are very well borne by the plague bacillus, according to Kasanski. This may explain why epidemics in warm countries are more dangerous in winter than in summer; although there are exceptions to this rule.

Disinfection by chemicals kills the plague bacillus very quickly. According to Hankin they are killed by a two-per-cent. solution of carbolic acid in two minutes, mercuric chloride, 0.2 per cent., and copper sulphate, 0.1. The bacillus is more resistant to alkalies than to acids. Acids are very effectual. Hankin saw the bacillus die in one hour in sour milk. This may be the effect, however, of milk bacteria which act in destroying similarly to the micro-organisms of decomposition. According to Hankin the death of the plague bacillus occurs in organs in six days. Yokoto, however, found that they still survive in the dead bodies of animals at a temperature of 22° to 30° C. for fourteen days; and at a temperature of 10° to 22° C. for from nineteen to twenty-two days. Schotteli found that evidences of the bacillus from buried plague-stricken animals very rapidly appear in the surrounding earth. Calcium chloride and potassium permanganate are very effective according to Hankin in one-tenth-of-one-per-cent. solutions. According to N. K. Schultz, mercuric chloride (1 to 1000) is very effective in two minutes; mercuric chloride with hydrochloric acid (1 to 20,000) is effective in the same time. Formaldehyde and phenol, but only in the concentration of 1 to 50, kill cultures in two minutes. The first, however, acts excellently as a gas.

With reference to the disease produced by this bacillus known as the bubonic plague, I shall vary its description from that given in the ordinary text-books, not only because these are well known but also because the variation is needed for the purposes of State Medicine. For this purpose the different ways in which the bacillus can be introduced into the body will be first discussed. In by

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far the majority of cases there is a close connection between cases of plague and new infections. In some instances such a connection has not been demonstrated, as was the case in ten patients studied in a Bombay hospital by H. F. Mueller, who died plague-stricken from his later work in Vienna. From his results it appears that plague infection may occur without lesion of the skin (the generally accepted origin of the primary bubo) and seemingly without other direct contagion. The possibility of infection by insects, demonstrated first by Roux, must be taken into consideration in such cases. He found that flies caught in the laboratory of the Pasteur Institute of Paris, in 1897, where work upon the plague bacillus was done, if ground in sterile water, infected guinea-pigs with plague. It is, therefore, obvious that these insects may also disseminate the virus. In one case described by Mueller in a hospital not containing plague patients, a man with testicle and lung tuberculosis developed a cubital bubo at the eleventh day of his stay. From this he subsequently recovered.

While the German Commission denies that fleas and mosquitoes can infect with plague, still there are many observations which demonstrate this. Hankin found the plague bacillus in fleas and ants which had been on rats dead from plague. Simond infected living rats by the fleas from rats killed by plague. Without fleas such rats were proven non-infectious. The German Commission, however, denied this method of infection so far as regards man. Indeed, it does not seem very probable that fleas infesting rats will attack men. Against the infectious action of fleas from plague-stricken patients stands the fact that in the wards of the Bombay hospitals, visiting and working people rarely if ever became infected.

The expectoration of pest pneumonia has much greater tendencies to disseminate plague germs in a spray formed by small drops containing air (Fluegge). Such patients should be isolated and covered entirely with a veil supported by a light frame. The physician should guard against this mode of infection but not, as was advised by the Imperial German Health Board, in October, 1899, by the use of thick veils which cover the face and impair sight and respiration. In lieu of this, sterilized gauze should be always ready in the side pocket for use in covering the mouth and nose in an emergency. Sublimate gauze was used for this purpose in the cholera barracks in Hamburg. The danger, however, is much greater in plague. It should not be forgotten in the treatment of plague, to clean the mouth and nose from time to time with disinfectants, since, as has been shown by the German Commission in India and by Baizaroff, the slightest infection of the nose may give rise to plague pulmonary disorder. Physicians and people who have to do with plague patients should cut off their beards and disinfect the whole surface of the face, especially the former hairy parts. They should then gargle with and swallow non-poisonous disinfectants.

The possibility should not be forgotten that infection may occur through water and food. In time of epidemic boiled water and cooked food should be employed and scrupulous cleanliness should be enforced.

For therapeutic and prophylactic purposes experiments in bacteriotherapy have been made. Haffkine employed for therapeutic purposes cultures killed by heat and kept sterile by addition of carbolic acid. Heat according to Markl partly destroys the toxin. Haffkine's work has been sharply criticised by Bitter who, however, concedes that some good results were obtained by Haffkine despite the unhygienic methods employed. In families, some of whose members were vaccinated, Bitter found that the non-vaccinated (124) had forty-three-and-a-half per cent. of plague cases with sixty-and-a-half per cent, of mortality, while the vaccinated (250) had but twenty per cent. affected with but eight per cent. mortality. The continuous contact of the non-vaccinated, as Haffkine remarks, must have exerted an unfavorable influence on the vaccinated. The Imperial German Health Board has recommended the erection of stations for the production of antiplague vaccine. Yersin has had by no means disappointing results with antiplague serum. There seems, however, to be some difficulty in reaching a higher degree of immunity in horses; a difficulty which further study will doubtless overcome. In Amoy the mortality of twenty-three cases treated with serum of Yersin was but seven-and-half per cent. against the sixty to ninety per cent. mortality so frequent in epidemics of the plague.

The first method of combating the spread of the plague must be by general hygienic measures. These measures following the conclusions of the Imperial German Health Board should be as follows: (1) The control of transportation of persons and of merchandise. This should include careful observation of the suspicious cases with retention of the sick for a sufficient time for medical study. It should also include quarantine against plague-stricken countries for a period of ten days, which can be shortened or omitted if a sea voyage of more than ten days has preceded the arrival of the vessel. (2) The proper education of experts, which will include the thorough training of bacteriologists in the life-history and culture of the plague bacillus and also educational courses for sanitary officers. (3) The measures which should be taken in the event of the appearance or suspicion of appearance of a bubonic plague, as follows: All suspected plague cases should be immediately notified to the proper authorities. All pneumonias should be regarded as suspicious and also notified; this procedure has long been adopted in English-speaking countries in principle, in the notification of diarrhea cases during cholera epidemics. Where suspicion of a case occurs, a sanitary expert should be immediately sent. Portable laboratories should be instituted for use in such emergencies. The demonstrated cases of plague should be isolated immediately in a plague hospital. If the case of

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plague has originated spontaneously and there is reasonable suspicion that rats are the source of infection, the whole house should be cleared (Pfeiffer). If the case, however, be imported, the flat alone should be cleared and the well members of the family should be kept under observation in other quarters. Gaffky found it sufficient to submit the well members of the family to daily medical inspection while permitting them to move around freely.

In regard to the question of disinfection, Fluegge claimed that his method with formalin-steam could be used even if the windows and doors were not hermetically closed. In this event three times the usual quantity of formalin would be needed. As already observed Schultz has also found that formalin in gaseous forms possesses great efficiency. The nature of protection needed for physicians and nurses has already been discussed. In the struggle against the rats, Frosch advises strychninized-wheat, which in Oporto has given good results when laid in sewers and canals. It is well known to sanitarians that sulphurous acid used in fumigation drives away rats. The German steamers which land in plague-stricken places put large sharpened discs upon the cables connected with the pier as defenses against rats. It seems desirable that special institutions should be erected by the Government for the purpose of securing preventative and healing injections. For active immunization of animals with living cultures such institutions should be placed on islands, as is done in Russia and in Italy. It is further recommended to employ for the production of the preservative substance, or vaccine, a combination of active and passive immunization, since the last process is low in action but diminishes the reaction of the first. By passive immunization is understood in Germany serum treatment. The French scientists (Calmette) substitute for these expressions the somewhat less obscure phrase "cellular and humoral immunization." As Loeffler very correctly remarks, passive humoral immunization may not prove sufficient against infecton of the respiratory tract. With reference to the danger from dead bodies in plague, Fluegge is of the opinion that this is not great, but ignores the observations previously cited from Shottelius, and also the fact that plague broke out in Egypt after disinterment of the bodies of the Arabs killed in the battle of the Pyramids.

If the conditions which are known to exist anent the bubonic plague, its nature, its method of spread, and the conditions which give it an epidemic character be considered, the danger for the United States does not seem very great. It should, however, be remembered that the Western Hemisphere is no longer free from the plague. Importations of it have already taken place in New York. The battle against its further spread will be successful only if uniform hygienic measures are instituted throughout the whole country. This cannot be done without supervision from the Federal Government. More than ever before, is is evident that a Department of Health should be created in the Cabinet of the President, such as has long been advocated by the medical profession. In the larger cities, such as Chicago, proper cleansing of the streets, proper drainage, such as the drainage canal will ensure, and the institution of more effective disinfection are required. The medical profession will certainly help the local governments in every way if opportunity will be given.

Discussion.

Dr. Gehrmann, in expressing his appreciation of the remarks made by Dr. Klebs, said: The two points which seem to be of interest at the present time, while the plague is still distant, are the different ways in which propagation takes place and the diagnosis of cases. The relation of the smaller animals and insects to the spread of the disease is one of the latest demonstrations. In *La Semaine Médicale* there recently appeared an account of ancient pictures where a number of rats and mice are figured in the area where the patients were, the attempt being made to show the relation of these animals to the disease. The experience in India and Continental Europe seems to show that the most severe outbreaks occur in the outlying and shipping districts, and that people become infected in warehouses in connection with the handling of goods coming from foreign countries. From these people it is transmitted to residence districts and from these it spreads. Rats also bring the plague, and their access to warehouses is again one of the factors in distributing the disease. These people are subjected to infection of the worst form; the condition of these buildings, damp, and with little chance for the admission of sunlight, seems to assist the spread of the plague by lessening their resisting powers.

The various details laid down, as reported in the Berlin Conference, should make it comparatively easy to recognize cases of plague. There is some difficulty in that the bacilli do not retain their activity in the glands throughout the length of the disease, making their isolation quite difficult, but, as Dr. Klebs has said, extensive experiments show that there is no reason why the bacillus cannot be isolated. The characteristics of the bacillus are not wholly settled; the main features, however, are determined.

From the literature it seems that the possibility of infecting animals by feeding them plague material ought to be one of the very important diagnostic points; that where we have cultures, or material suspected of containing the plague bacilli, the feeding of this material to rats and mice and thereby infecting them, as well as by direct inoculation, would be a very valuable point. At present our reliance must be placed in the vigilance of our Marine Hospital Service to prevent importation of plague cases into this country.

The instructions recently issued by Surgeon-General Wyman if intelligently applied by the officers of the Marine Hospital Service will insure our country against invasion by this pest.

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A CONSIDERATION OF ACUTE INFLAMMATORY RHEUMATISM.

BY W. H. NEILSON, M.D.,
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INFLAMMATORY rheumatism is a disease with which we so frequently come in contact, and about which we know so little, that papers upon and discussion in regard to it can only do good, if it be only to fix in our minds how little we know about the subject—how circumscribed are our limitations. If this much can be clearly defined we have made a distinct progress, for one of the first requisites towards advancement in knowledge is to unlearn much that we think we know.

There is probably no disease with such prominent symptoms and so easy of diagnosis as inflammatory rheumatism, and yet none that has been burdened with so many theories as to its etiology and methods of treatment.

From the active antiphlogistic treatment of the ancients to the whey expectant treatment of Sydenham 200 years ago, to the return to active blood-letting and purging of the eighteenth and early nineteenth centuries, to the formulating of the lactic acid theory by Prout, to the disappointment of the alkaline treatment leading to the placebo of our own Flint, and the mint waters treatment of Sutton in 1863-5, down to early in 1876 when Maclagen gave the results of the salicin treatment to the profession; and a little later to the favorable reports of Stricker and Riess on the employment of Kolbe's synthetical product, salicylic acid, the history of the treatment of inflammatory rheumatism has been marked by thereapeutic monstrosities, blindly worshiped until smashed by some iconoclastic scientist, who then sets up some other idol whose crown appears to be of the pure metal, but whose feet are crumbling clay.

Loss of faith in methods of treatment resulted from time to time in the agnosticism of the placebo, the whey and the mint water; and a study of the devotion, the revulsion, the indifference of the mind of the profession during these centuries, would make an interesting chapter in psychology. Not until 1876, when the reports above referred to were published, was there any distinct thereapeutic progress made. Treatment based on the old theories was found unavailing. One by one the hypotheses were found to be inadequate to explain the conditions present, until, finally, the resemblance of inflammatory rheumatism to malaria engendered the belief that it was of miasmatic origin, and that salicin was its natural antagonist.

That after the lapse of twenty-three years our mental attitude should still be one of belief and not of conviction is proof of the difficulties of investigation and a sad commentary on our scientific limitations. That we are tsill hampered by much of the lumber of the past is undeniable and our progress is by that much impeded. Phlogiston is still a shadowy factor in deciding our treatment; there are still ill-defined shapes of acids floating before our mental vision, affrighting us by their very indefiniteness, and, perhaps the veriest bugaboo of them all, the nervous system, challenges our attention; and yet with it all, true progress has been made, not only in the therapeutics, but in the etiology of inflammatory rheumatism.

Inflammatory rheumatism is a disease of the serous and fibrous tissues of the body, especially manifesting itself in those which are concerned in facilitating, limiting, and producing motion, *viz.*, synovial membranes and the left endocardium, the ligaments of the joints, tendons and muscles. That no fibrous or serous tissue is exempt from the rheumatic poison is generally understood, but the chief manifestations are restricted to the structures mentioned.

The disease is characterized by pain, which is present until the disease is cured, by swelling, heat, redness, and impairment of function, the cardinal points of inflammation—an inflammation, however, which seldom results in the formation of pus. It is, furthermore, characterized by a temperature of a variable character, by a somewhat regular progression of the inflammation from one joint to the other—the accession in one joint often being accompanied by recession in another, by various nervous symptoms, oftentimes nausea and constipation, scanty urine loaded with urates and some crystals of uric acid, lactic acid in the blood, a profuse acid sweat—which acidity some claim to be due to lactic acid, others to putrefactive changes on the surface, or to the elimination of volatile fatty acids—and in some cases urticaria, purpura, erythema, eczema and nodes.

To account for this complex of symptoms, many ingenious theories have been formulated and foisted upon an ever-ready profession, only to be found lacking in some essential. The theory which has had the strongest hold upon the profession is that lactic acid is the cause, and that this idea still has many adherents is witnessed by the untiring efforts of the pharmacists in exploiting the various antacids. That lactic acid is found abundantly in the blood of patients suffering from this disease is demonstrable; that its excess is eliminated by the skin, causing the profuse, perspiration, instead of by the usual route of the lung as water and carbonic acid gas, seems highly probable, but that a constantly present chemical agent can produce the irregular symptoms present cannot be believed.

Physiologists tell us that lactic acid is a result of muscular waste, whether that be brought about by exercise or by cell activity induced by irritation; that fibrin, which is in excess in the blood of rheumatics, is produced in the same way, the one from the glucose of the muscle; the other, with urea and uric acid, forms the nitrogenous elements. We are told by the adherents of this doctrine that an excess of lactic acid as the result of severe exercise is made patent for

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ill by exposure to cold. We cannot conceive of enough of the acid being produced in this manner to keep up a protracted, violent attack, the symptoms often increasing in severity when there is free elimination through the skin, nor that fresh joints frequently should be involved even after weeks of protection from cold in a comfortable room and a warm bed. We cannot conceive of a reservoir for the holding of the acid from which it is given out in accordance with the severity or mildness of the symptoms. Any tenable theory of a disease must adequately explain its phenomena. The lactic acid theory measured by this cannot hold; no more can the nervous theory, although to the pathologists it has much that is alluring.

When considering the miasmatic theory, we feel that we are on firmer ground. Although, notwithstanding twenty-three years of research, much is involved in obscurity and nothing in a biologic way has absolutely been determined, yet the clinical facts point so unerringly to bacterial development, and above all the therapeutics have so decided a limiting effect upon the disease, that we are forced to admit a partial correctness of the belief now steadily gaining ground. Bacteriologists have demonstrated that micro-organisms have the quality of selecting their proper habitat or nidus; that their activity depends largely on their supply of nutriment; that when their nidus is exhausted their activity ceases; and that their presence in tissues under proper conditions provokes inflammation which will continue as long as the irritant is active.

Granted we have the micro-organisms finding an entrance to the body with all the conditions right, their particular nidus is the serous and fibrous tissues. As a result of their activity inflammation supervenes, only to die down when the nidus is exhausted; new colonies are sent out to invade fresh fields of fibrous or serous tissues; the fields of first invasion are renewed only to be attacked and occupied by another colony, and this indefinitely, as is a matter of clinical observation, unless checked by treatment.

Micro-organisms in their growth use up water and nitrogen, thus accounting in part, at least, for the thirst and wasting. Their presence in the muscular, fibrous and serous tissues induces active changes, such as inflammation, lactic acid, uric acid, urea. Lactic acid induces profuse perspiration, which can be experimentally demonstrated; urea and urates are abundantly found in the urine, which is scanty on account of the loss of water. New colonies invading new fields produce fresh inflammation, and exhausted fields renewed furnish pabulum again. Thus does this theory explain the symptoms of inflammatory rheumatism. But we do not have to rely on theory alone, for as a result of observation it has been pretty thoroughly demonstrated that the presence of micro-organisms is an etiologic factor of importance.

Achalme has repeatedly found a bacillus both in the living patient and post-mortem, cultures of which induced joint-swelling in the guinea-pig. Boucheron, in addition, has found staphylococci and streptococci and has seen good results in six cases from injection of Marmorek's serum. Thiroloix found a bacillus which grew abundantly, was slightly motile, and which he claimed to be identical with Achalme's. Maragliano has also found micro-organisms in the blood of rheumatic patients. Numerous observers have found streptococci and staphylococci, and the frequent associations of rheumatism with tonsillitis and wounds lend color to the belief that the micro-organisms have their port of entry through the tonsils and through wounds. Above all, however, is the therapeutic proof, *i.e.*, the free administration of salicin, salicylic acid, or its compounds. It is a clinical fact that full doses of these drugs will cut short an attack of inflammatory rheumatism, and they do not do so by neutralizing the acid, for that is demonstrable even after all pain and fever have subsided.

The complications, too, bear the mark of infection, and we can hardly account for the blood dyscrasia which permits purpura and hematuria by any other hypothesis. But in accepting the infection theory of the cause, we must not lose sight of the fact that there must be a proper soil for the development of these micro-organisms.

What conditions are necessary to make the soil fruitful to bacteria of this particular sort we are not prepared to say, except that subjects of inflammatory rheumatism possess that peculiar predisposition towards disease known as the arthritic diathesis, that they suffer from the so-called acid-dyscrasia, and are individuals whose metabolism is subject to retardation. Oxidation in the tissues not being carried on to completeness, a great number of acids instead of the end products are the result, *i.e.*, water carbon dioxid, urea, uric and hippuric acids. As the result of incomplete changes in the digestive tract and of bacterial activity, various other acids are produced from the ingesta and find their way into the circulation, rendering the blood subalkaline, and it would appear that this subalkaline blood renders the tissues a fit culture medium. Then, through depressing agents, such as cold, worry, over-exertion, the resisting power is lost and the disease begins. The arthritic diathesis is undoubtedly inherited, for we see many manifestations of it cropping out in the different members of the same family or various signs of it in the same individual. That it can also be acquired is generally conceded. It, therefore, seems rational to forestall acute attacks by a line of treatment which increases metabolism, favors oxidation and prevents the development of the acids alluded to. As a clinical fact, prophylactic measures along this line are successful.

Of more than passing interest are the various complications we have to deal with, chief of which is endocarditis, occurring in one-third of all cases, also myocarditis and pericarditis, safe rules for the treatment of which are laid down in the text-books. Purpura rheumatica, peliosis

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rheumatica, urticaria, etc., are interesting, as they show blood dyscrasia and involvement of the vasomotors. In these, in addition to the antiseptic treatment, iron and strychnine are indicated, and strict attention to the digestive tract must be maintained. Meningitis is not so infrequent and is not always attended by hyperpyrexia. When it antedates the joint involvement, as I have seen it do, the diagnosis of rheumatism is well-nigh impossible. It yields, however, if at all, to salicylic treatment in connection with ice-bag, bromides and chloral.

Pneumonia is always a serious complication and frequently is fatal. Salicylic acid, strychnine and digitalis must be relied upon. Hyperpyrexia is best combated with the Brand cold bath, giving stimulants if necessary. Nausea is a serious condition and often forbids medication by mouth. Inunctions of methyl-salicylate with lanolin can here be employed with good effect. After the acute symptoms have subsided the anemia and debility must be combated in the usual way, and by keeping in mind the infectious nature of the disease our restorative treatment will be guided accordingly.

To sum up: I believe that inflammatory rheumatism is an infectious disease; that its natural history points to this, its complications point to it, and the treatment found so effective proclaims it.

I believe that in salicylic acid and its compounds, we have an effective means of combating the disease, but if we expect results we must give it in full doses; that only grave albuminuria is a contraindication to its use, and possibly that objection is more fancied than real. No doubt the day is not far distant when the complete etiology of the disease will be known and perhaps then a better mode of treatment will be evolved. Until then we must hold fast to what we have, knowing full well that the present-day treatment, judged by its effects, holds a distinct supremacy over all its predecessors.

TWO CASES OF RUPTURE OF THE RIGHT LOBE OF THE LIVER; LAPAROTOMY, RECOVERY.[1]

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RUPTURE of the liver is one of the rarer injuries demanding surgical interference. It is, likewise, accompanied by a high mortality, placed by Mayer at 86.6 per cent. and by Edler at 85.7 per cent. The high mortality is due to the severe shock and loss of blood and to the lateness of operative interference.

The two cases I have the pleasure to report came under my notice within about a fortnight of each other, and have many points of common interest. In both cases there was a direct blow over the right side of the trunk with a rupture on the under surface of the right lobe of the liver, evidently due to bending of that organ. In both, the immediate shock was so great that operative intervention was impossible for a number of hours. At operation in each case the abdominal cavity was filled with fluid and clotted blood, the hemorrhage having ceased entirely in one case, while it was merely an oozing in the other, at the time of operation. Both cases made an uneventful recovery and are now, two and a half years later, enjoying good health.

Case I.—Female, twenty-one years of age, on May 30, 1897, was violently thrown from a tally-ho, which was struck by a rapidly moving train. She was received in St. John's Hospital, Brooklyn, some four hours later. At that time shock was extreme, pulse almost imperceptible, skin anemic, and patient semi-conscious. It was evident that in addition to the shock a severe internal hemorrhage had taken place. There were several fractures of the extremities and fracture of the ninth and tenth ribs on the right side. Examination of the abdomen showed some distention and flatness in both lumbar and inguinal regions. The catheter withdrew from the bladder about three ounces of nearly pure blood. Active stimulation and infusion were resorted to. The following morning the patient's general condition was slightly improved; the catheter evacuated about six ounces of slightly blood-stained urine. It was decided to make an exploratory operation and this was done on June 1st, eighteen hours after receipt of the injury. After thorough preparation of the skin of the abdomen, and under ether anesthesia, a median abdominal incision was made just above the umbilicus. Immediately the peritoneum was opened there escaped a large quantity of fluid and clotted blood, estimated at two quarts; the hand was then introduced and the liver explored. A rent, two and one-half inches long and an inch and a half deep, of the under surface of the right lobe could be plainly felt and by extension of the incision slightly upward it was exposed. On viewing this it was discovered that all active hemorrhage had ceased. Further exploration revealed several small ruptures on the surface of the spleen, but from none of these was there active hemorrhage. The blood and clots were then rapidly removed from the peritoneal cavity and the abdomen left perfectly clean. The abdominal wound was then closed by layer sutures. The patient rallied quickly from the operation and made a rapid and uninterrupted recovery, the wound healing by primary union. In this case we had to deal with both a rupture of the liver and of the speen and also probably of the kidney.

Case II.—Male, forty-four years of age, car-coupler, on June 16, 1897, was caught between two cars while at his work. He was brought to the Norwegian Hospital about three-quarters of an hour after the injury. On admission he was suffering much shock and showed signs of internal hemorrhage. Immediate operation was

[1] Read at the annual meeting of the Medical Society of the State of New York, Albany, N. Y., February 1, 1900.

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proposed, and refused by patient, as he had had a similar injury a year before and recovered without any intervention. His condition slowly but continually grew worse in spite of vigorous stimulation, and twelve hours later he consented to operation. After proper preparations a median incision was made and on opening the abdomen there was a profuse discharge of fluid blood, between two and three quarts; the liver was immediately sought and on its under surface was found a rent an inch and a half in length and two inches deep. From the surface was a steady but moderate flow of blood. Pressure by means of a gauze tampon held in place for five minutes completely checked the bleeding. Two fine catgut sutures were then introduced and the liver wound closed. Thorough toilet of the peritoneal cavity was made and then the abdominal incision closed by layer sutures. At the close of the operation the patient was in very weak condition, but under stimulation of strychnine and whiskey, hypodermatically given, and coffee enemata, a rapid response was obtained. His recovery was rapid and uninterrupted, the patient being discharged from the hospital at the end of the third week.

The question of when to operate in these cases is the all important one and must be decided for each case individually. In the first case reported had operation been immediately resorted to I have no doubt a fatal issue would have resulted, while in the second case the delay made necessary by the patient's refusal of operation nearly cost him his life.

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REPORT OF BACTERIOLOGICAL INVESTIGATIONS UPON YELLOW FEVER.

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(Continued from p. 212.)

Experiments with Heart-Blood in Attempts at Infection.

THESE experiments could not have been undertaken at Santiago de Cuba, for obvious reasons. The method employed was to draw blood in large sterile Sternberg bulbs from the heart cavities of individuals dead of yellow fever; this blood was as sonn as possible (within one or two hours) injected into the peritoneal cavity or subcutaneously, macerating the clot if necessary. Usually only blood serum was obtained from the heart.

September 18, 1899.—Guinea-pig No. 30; weight 300 grms.; given intraperitoneal injection of 3 c.c. of bloody serum from the heart of autopsy No. 18 one hour after the autopsy (eleven hours after death). It recovered.

September 18, 1899.—Rabbit No. 35; weight 1020 grms.; subcutaneous injection of 3 c.c. of bloody serum from autopsy No. 18. September 20th. It has developed a large abscess at the seat of inoculation; weight 996 grms.

September 22d.—Abscess ruptured; discharge of bloody pus; weight 990 grms.

September 24th.—Abscess cavity is closing; weight 998 grms. This rabbit finally recovered. Aside from the loss in weight and the presence of the abscess, he showed no sign of sickness after the second day.

October 27, 1899.—Guinea-pig No. 34; weight 430 grms; subcutaneous injection of 2 c.c. of bloody serum from heart of autopsy No. 21, a half hour after autopsy (thirteen hours after death). October 28th.—Apparently very sick; weight 426 grms. October 29th.—Abscess at point of inoculation. October 31st.—Died during the night. Cultures from organs gave negative results as far as bacillus icteroides is concerned.

October 27, 1899.—Guinea-pig No. 36; weight 620 grms. Intraperitoneal injection of 3 c.c. of bloody serum from the heart of autopsy No. 21. October 28th.—Is very sick; weight 612 grms. October 29th.—Has eaten some food; locomotion is impaired. It finally recovered with a contracted hind leg.

October 27, 1899.—Rabbit No. 37; weight 1086 grms.; intravenous injection of 1 c.c. of bloody serum from the heart of autopsy No. 21. October 30th.—It has been sick for the last three days, but is better to-day. It finally recovered.

November 12, 1899.—Guinea-pig No. 38; weight 380 grms; intraperitoneal injection of 3 c.c. of bloody serum from the heart of autopsy No. 23 a half hour after autopsy (thirteen hours after death). November 13th.—Apparently sick. November 14th.—It is more lively. Finally recovered.

November 12, 1899.—Guinea-pig No. 39; weight 437 grms; subcutaneous injection of 1 c.c. of bloody serum from the heart of autopsy No. 23. November 16th.—An abscess has developed which contracts the hind leg on the side of the inoculation. It finally got well, with a permanently contracted leg.

November 12, 1899.—Rabbit No. 40; weight 1072 grms; intravenous injection of 2 c.c. of bloody serum from the heart of autopsy No. 23. November 13th.—Died during the night. Cultures from the liver, kidney, bile and urine remained sterile; cultures from the spleen and heart-blood gave three organisms: a staphylococcus and two colon bacilli, one of which is pathogenic, the other not. The pathogenic bacillus produces death in guinea-pigs in doses of from 3 c.c. to 4 c.c., intraperitoneally, subcutaneously it forms abscess. Bacillus icteroides was not presnet.

It has not been possible to produce any disease even remotely similar to yellow fever by the experiments above outlined. In fatal cases the lesions were either purely local or the result of septicemia.

Agglutination Tests.

The efforts to ascertain the "clumping" power of yellow fever serum were directed principally against bacillus icteroides.

The results have been as expected, regularly

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negative, whenever the degree of dilution and time limit were taken into consideration. In all, fifty-four tests were made with blood taken from the ear-lobe. (See table IV.)

The accompanying table will show at a glance the fact that bacillus icteroides is not distinctly affected by the action of yellow fever serum. In the two instances, with the blood of Jas. M. Hays

TABLE IV.

Name.	Day of the Disease.	Dilution.	Time Limit.	Result.
Pascual Rodriguez.	Convalescing.	1-10	30 minutes.	Arrested motility.
Tom Buchanan ...	12th.	1-10	30 "	Negative.
Mike Deveny	5th.	1-10	30 "	"
J. P. Thomas. ...	15th.	1-10	30 "	"
J. G. Thatcher....	11th.	1-10	30 "	"
Geo. Woods.....	9th.	1-10	30 "	"
Lant Sears	4th.	1-10	30 "	"
Wm. Demuth	4th.	1-10	30 "	"
B. Dadd.....	5th.	1-10	30 "	"
Wm. Shew	11th.	1-10	30 "	"
Fred Morrell.....	3d.	1-10	30 "	"
Wm. Mooney.....	5th.	1-10	30 "	"
Jas. M. Hays	4th.	1-10	30 "	Arrested motility.
" "	5th.	1-10	30 "	Arrested motility.
Luis Colome	8th.	1-10	30 "	Negative.
J. J. Dougherty...	7th.	1-10	30 "	"
Burton Fowler....	8th.	1 10	30 "	"
" "	12th.	1-10	30 "	"
" "	15th.	1-10	30 "	"
Anthony Weidner.	5th.	1-10	30 "	"
" " .	12th.	1-10	30 "	"
Tim Healy.....	5th.	1-10	30 "	"
" "	9th.	1-10	30 "	"
Stephen Scanlan ..	6th.	1-10	30 "	"
" " ..	Convalescing.	1-10	30 "	"
" " ..	"	1-10	30 "	"
Henry R. Clay....	9th.	1-10	30 "	"
" "	12th.	1-10	30 "	"
Chas. Allison	8th.	1-10	30 "	"
" "	Convalescing.	1-10	30 "	"
Clifford Calhoun ..	5th.	1-10	30 "	"
R. Graves	7th.	1-10	30 "	"
Ed. Vragel	8th.	1-10	30 "	"
" "	Convalescing.	1-10	30 "	"
M. Harper.....	"	1-10	30 "	"
Jas. Hilton	9th.	1-10	30 "	"
J. Thorsby.....	9th.	1-10	30 "	"
Chas. Mitchell	7th.	1-10	30 "	"
" "	Convalescing.	1-10	30 "	"
Max Thompson...	9th.	1-10	30 "	"
Dan Coleman.....	9th.	1-10	30 "	"
Chas. Rodgers....	8th.	1-10	30 "	"
" "	13th.	1-10	30 "	"
Sigis'd Fichmann..	6th.	1-10	30 "	Arrested motility.
" " ..	7th.	1-10	30 "	Negative.
" " ..	8th.	1-10	30 "	Arrested motility.
" " ..	8th.	1-20	1 hour.	Negative.
" " ..	8th.	1-20	2 hours.	"
Stanley Embick ...	Convalescent.	1-10	30 minutes.	"
E. Bubeck.....	"	1-10	30 "	"
Henri Buverrier...	"	1-10	30 "	"
Wm. Stokes.....	"	1-10	30 "	"
P. Peterson.....	"	1-10	30 "	"
J. O. La Fontissee.	"	1-10	30 "	"

and S. Fichmann, the bacilli were certainly arrested in their motility and a positive reaction seemed about to take place, but repeated experiments failed to confirm this. The case of Hays is of some interest from the fact that bacillus icteroides was isolated after death.

Bacillus icteroides can be said to be agglutinated in the proper dilution and time limit only by the serum of animals infected with itself (B. icteroides) and by the serum of hog-cholera, evidently its own nearest kin. If time limit is of no account when dealing with this organism, as it might be inferred from reading Drs. Wasdin and Geddings' report, in which they state having waited three hours for a reaction (pp. 15 and 79), then we find that bacillus icteroides is agglutinated or its motility arrested by the serum not only of yellow fever cases, occasionally, but also of healthy individuals, non-immunes, as well as by that of typhoid fever and other patients and by the normal serum of some of the lower animals.

Immunizing Power of Yellow-Fever Convalescent's Serum against the Bacillus Icteroides of Sanarelli.

The serum obtained from convalescent yellow fever patients has no protective power against bacillus icteroides injected in the doses ordinarily employed with the known antitoxic serum of other micro-organisms.

Before arriving at this conclusion a number of experiments were made, as follows:

June 5, 1899.—Guinea-pig No. 12; weight 320 grms; subcutaneous injection 0.3 c.c. of a 24-hour bouillon culture bacillus icteroides (control). Died in 30 hours; bacillus icteroides recovered from blood and viscera.

Guinea-pig No. 13; 300 grms; subcutaneous injection 0.3 c.c. same culture as above, also 2 c.c. of blood serum from Pascual Rodriguez. (This serum slightly arrested the motility of bacillus icteroides.) Died in the night of June 6th. Bacillus icteroides recovered from the blood and viscera.

Guinea-pig No. 14; weight 325 grms; subcutaneous injection 0.4 c.c. came culture as above, also 2 c.c. blood serum from Pascual Rodriguez. Died in 3 days; bacillus icteroides recovered.

June 9, 1899.—Dog No. 15; weight 8½ lbs; intravenous injection 15 c.c. of serum from Pascual Rodriguez and through the same needle; 15 minutes afterwards 5 c.c. of a 24-hour bouillon culture bacillus icteroides isolated from Patrick Smith. He developed fever, vomiting and diarrhea, which lasted five days. The animal died June 14th. Bacillus icteroides was recovered from the viscera and heart-blood.

September 14, 1899.—Guinea-pig No. 26; weight 460 grms; subcutaneous injection 0.5 c.c. of a 24-hour bouillon culture bacillus icteroides (control). Died September 10th, P.M.; bacillus icteroides recovered.

Guinea-pig No. 27; weight 626 grms; subcutaneous injection 0.5 c.c. of same culture as above, also 3 c.c. of serum from Ed. Vragel. Found dead September 16th; bacillus icteroides in abundance recovered from the blood and viscera.

Guinea-pig No. 28; weight 324 grms.; subcutaneous injection 0.5 c.c. of same culture as above, also an intraperitoneal injection of 4 c.c.

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of blood serum from Ed. Vragel. Died September 16th, A. M.; bacillus icteroides recovered.

Rabbit No. 29; weight 1066 grms.; subcutaneous injection of 1 c.c. of same culture as above, also an intravenous injection of 4 c.c. of serum from Ed. Vragel. Died September 18th; bacillus icteroides recovered.

October 23, 1899.—Guinea-pig No. 31; weight 620 grms.; subcutaneous injection of 0.8 c.c. 24-hour bouillon culture bacillus icteroides (to test its virulence). Died October 25th and bacillus icteroides was recovered.

Dog No. 32, weight 12 lbs.; given an intravenous injection of 15 c.c. of blood serum from Henri Duverrier. A half-hour afterwards, a second intravenous injection of 6 c.c. of same culture used on guinea-pig No. 31. The animal was sick for five days and died in convulsions October 28th. The viscera were much congested, the liver showed fatty changes and there were small subpleural hemorrhages. Bacillus icteroides was recovered from the blood and viscera. From the early experiments we were led to hope that if not decidedly protective, at least the serum of immune individuals might enable us to prolong the life of infected animals; the subsequent results, however, soon undeceived us and we plainly saw that it exerted no greater influence than would the injection of any other serum under the same circumstances.

The Serum of Convalescent Yellow-Fever Patients.

The writer firmly believes in the bacterial origin of yellow fever. Having met with general disappointment in the search for the real organism and completely lost faith in the specificity of bacillus icteroides, he desired to undertake a series of experiments to determine what curative power, if any, existed in the blood serum obtained from men who lately had the disease. It was logical to believe that the immunity conferred upon these individuals must be due to the formation of some antitoxic principle, and it was also logical to think that this antitoxin might after careful study and experimentation be of incalculable value, not only as a therapeutic means in properly selected cases, but more so as a prophylactic by its injection into non-immune subjects, in doses to be determined. But it was necessary to seek for evidence that would tend to corroborate this theory and with that purpose in view we wrote you from Santiago on July 9, 1899, as follows: "Is there any danger in injecting the serum of these recent immunes into yellow-fever patients, in an attempt to counteract the action of the yellow fever toxin, especially if care is taken in obtaining the blood from men who are otherwise well? I mean without syphilitic or tubercular taint.

"In view of the apparent slight risk, if any, and the great benefit that would be derived therefrom if successful, I think a trial would be warranted. The more I have thought upon this the more I am inclined in its favor; I am well aware of the fact that such experiment would perhaps be unprecedented, but that alone would not deter me from undertaking it. But I may have considered this subject from an erroneous standpoint; if that is the case, I would like to have you point out my error to me, and it is needless to say that I shall profit by your advice and certainly desist from further consideration of the matter."

We were honored by your approval and the consent to undertake the experimental injections. Your letter reached us too late to enable us to do anything in Santiago, but upon our return to Havana we began to work in this direction.

The serum was obtained of convalescents from uncomplicated yellow fever; a careful scrutiny of their previous history was made so as to avoid bleeding men who had any syphilitic or tubercular antecedents; we also refused blood from individuals subject to rheumatic, gouty or any other diathesis or from men addicted to alcoholic drinks. This necessitated the discarding of numerous cases so that the serum collected was less in quantity than it would have been under different conditions. The fact was that we desired to surround these injections by such safeguards as might do away with such criticisms as the work, heretofore unprecedented, would call forth from those who never had the courage to put it into practise if they ever did have the conviction of the rationale of the subject.

The method employed in obtaining the serum was as follows: A convalescent was selected who had sufficiently recovered to afford the slight loss of blood (about one week or ten days after entering into convalescence). The right arm up to the shoulder was thoroughly scrubbed with soap and water, then with a solution of bichloride of mercury (1-1000) and, finally, with ether and sterile cotton, particularly around the elbow-joint; a bandage was placed about the upper arm sufficiently tight to interrupt the venous circulation; a puncture was made with a lancet into one of the engorged superficial veins, and the blood stream was received into a sterile, cylindrical glass graduate. If the flow of blood tended to diminish, the man was instructed to forcibly open and close his hands several times, when the flow would quickly be re-established. After 24 hours in an ice-chest at about 20° C., the supernatant serum is syphoned from the glass cylinder into a conical Pasteur flask, where it is decanted, so as to later secure the serum as free from red corpuscles as possible. It is unnecessary to detail here the antiseptic precautions by which the entire process was surrounded. From 120 c.c. to 300 c.c. have been drawn at a sitting and no convalescent has been subjected to more than one bleeding. At no time have we met with any difficulty in obtaining consent to be bled, nor have any untoward symptoms resulted from the amount of blood drawn.

If opportunity is afforded for the continuance of these experiments (and we earnestly hope that it will be) we think that the beneficial results

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might be aided, in the presence of an epidemic, by the use of a centrifugal machine that will do away with the time necessary for the natural separation of the clot and serum. At the same time the serum will be carried from the immune to the patient within ten minutes of time, the latter receiving the leucocytes in a live state which, if they exert any influence upon the protective principle, as we believe they do, will certainly increase the therapeutic value of the injections. By the use of such apparatus a large quantity of serum will be obtained, requiring that a very small quantity of blood be taken at a sitting and thus allowing the employment of other methods than the old-time bleeding for its obtainment.

The number of convalescents subjected to this operation was as follows:

June 4, 1899.—Pascual Rodriguez, civilian, about forty years of age; in the third week of convalescence. From a vein at the elbow 184 c.c. of blood were drawn; it yielded 53 c.c. clear serum.

September 26, 1899.—Chas. Allison, civilian, thirty-one years. The day before his discharge from the hospital, 250 c.c. of blood were obtained from a vein at the elbow; it yielded 67 c.c. of clear serum.

September 10, 1899.—Ed. Vragel, private, I, 2nd Artillery, nineteen years. Two days before his discharge from the hospital we obtained 120 c.c. of blood form a vein at the elbow, which yielded 20 c.c. of clear serum.

September 16, 1899.—Chas. Mitchell, Corp., B, 2nd Artillery, thirty years. Two days before his discharge from the hospital we obtained 230 c.c. of blood from a vein at the elbow; it yielded 60 c.c. of clear serum.

September 17, 1899.—Stanley Embick, 2nd Lieut., B, 2nd Artillery, twenty-three years. Three days before his discharge we obtained 250 c.c. of blood from a vein at the elbow, which yielded 65 c.c. of serum.

September 19, 1899.—Earnest Bubeck, private, K, 2nd Artillery, twenty-three years. The day before his discharge 300 c.c. of blood were drawn from a vein at the elbow; it yielded 85 c.c. of serum, most of which became contaminated in manipulation.

October 22, 1899.—Henri Duverrier, civilian, twenty-two years. The day before his discharge from the hospital (Los Angeles) we obtained 200 c.c. of blood from a vein at the elbow; it yielded about 55 c.c. of serum.

October 23, 1899.—Wm. Stokes, civilian, twenty-three years. Four days before his discharge we drew 300 c.c. of blood from the arm, which yielded 64 c.c. clear serum.

October 31, 1899.—Peter Peterson, civilian, twenty years. The day before his discharge we obtained 200 c.c. of blood from a vein at the elbow; it yielded 40 c.c. of clear serum.

November 24, 1899.—J. O. La Fontissee, civilian, twenty-seven years. One week after his discharge from the hospital we obtained 250 c.c. of blood from a vein at the elbow, which yielded 55 c.c. of clear serum.

Some of the serum here recorded was used in experiments, as detailed in a previous chapter and a good quantity was set aside as being slightly cloudy or too highly tinged with dissolved hemoglobine, so that a comparatively small amount was employed in the following cases:

Case I.—James Gavin, civilian, seaman, forty-one years of age, admitted to hospital in the afternoon of October 11th, 1899. The patient says he has never been sick since fifteen years ago, when he had rheumatism. His habits are bad, and he confesses to being an habitual drunkard. He has lived one month in Havana. On the 9th at midnight he experienced a slight chill, severe frontal headache, rachialgia and myalgia. On the 10th, he felt better, but on the 11th became worse again and vomited everything he took; he was then sent to the hospital, where he was placed in the "suspect ward." Oct. 12.—The diagnosis of yellow fever is made. The patient's condition is made worse by the severe gastric irritation, which induces almost constant vomiting and retching. At 2 P. M. he is given an injection of 18 c.c. of serum (marked Embick, 9-18-99) under the skin of the outer aspect of the left thigh, his temperature being 103° F.; pulse, 58; respiration, 22. The urine contains about 6 per cent. of albumin. Oct. 13th., A. M.—All night the temperature has ranged around 104°. At 9:15, temperature, 102.8°; pulse, 68. "Did not like to ask nurse for urinal," so he had passed urine in bed. The lithia water that was given caused him to vomit three times, gastric juice and mucus only; complains of constant "water-brash" and "heart-burn." Urine contains about 20 per cent. of albumin (a rough estimate of moist albumin). Oct. 13th, P. M.—The gastric irritation continues. The patient retained a small quantity of malted milk; he vomits only gastric juice and mucus. At 2 P.M. temperature, 103° F.; pulse, 70; respiration, 22. A second injection is given on the other thigh, 18 c.c. serum (marked Mitchell, 9-18-99). Oct. 14th, A.M.—There was no reaction after yesterday's injection. The temperature has gradually come down to 100.4° F.; pulse, 68; respiration, 16. In spite of the uncontrollable nausea and frequent vomiting there has been nothing like "black vomit." Not even the so-called "fly-wing" specks have appeared in the acid mucus thrown up. The prostration is great, but the headache has been relieved. I ordered five grains of bicarbonate of soda every three hours in an effort to relieve the gastric hyperacidity. A remarkable feature in the clinical picture which this case presents is the entire absence of hemorrhagic tendency from any of the mucous membranes, so that we have a typical case of yellow fever infection without the bleeding from gums, mouth, stomach, intestines or into the skin. The icterus is present, well marked in skin and sclerotics, also the non-correlation of temperature and pulse and the albumin in the urine. There is a slight puffiness of the gums but no more than he had on admission. Aside

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from this absence of hemorrhage, the fact that the man's mind is unusually clear and that the pulse and temperature show an inclination to come nearer together, makes me consider the patient's condition very critical. Oct. 15, A.M.—The temperature has now come down to 100° F.; pulse, 70. The patient, although extremely prostrated by the continuous retching, is perfectly *lucid* in mind; he asks for the bed-pan when in need of it, and complains of nothing but weakness. There is no headache; the amount of urine passed in the last twenty-four hours is 1000 c.c. Oct. 15th, P.M.—The nausea continues without actual vomiting, but even a question as to the condition of his stomach causes him to retch; the thermometer introduced into his mouth induces retching. The pulse is so thin and compressible that I decide to give one-sixtieth of a grain of strychnine hypodermically. Although all the signs of yellow fever infection have subsided I fear to lose the patient through cardiac failure. With the same purpose in mind, stimulation, he is given a third injection of convalescent's serum, 20 c.c. (marked Mitchell, 9-18-99). The temperature at this time is 100.8° F.; pulse, 80; respiration, 20. Oct. 16th, A.M.—The patient passed a rather comfortable night, although the gastric irritation, less intense, continues. From 4:30 P.M. yesterday to 9 o'clock this morning the patient has voided 280 c.c. of urine, containing about 10 per cent. of albumin. He sleeps a great deal. Temperature, 97.8° F.; pulse, 68; respiration, 20. Oct. 16th, P.M.—The man says he only feels weak, and begs to be disturbed less and permitted to sleep longer intervals. His request is granted. His mind is perfectly clear, and the efforts at vomiting occur less frequently. Oct. 17, A.M.—During the last twenty-four hours the patient has passed 2013 c.c. of urine; it contains about 10 per cent. of albumin. There has been no vomiting since last night. Patient says he is hungry. Temperature, normal; pulse, 68. Small quantities of beef extract are allowed. Nothing in the way of medication except the strychnine has been given in this case, and we believe that the first two injections of serum were sufficient to counteract the yellow fever toxins; there was no indication for the third injection except the exhaustion due to the accidental presence of the gastritis, and it was administered as a tonic only. Oct. 18th, A.M.—The patient continues to do well, is still hungry, and has no more gastric disturbance. Has passed 1945 c.c. of urine during the last twenty-four hours. Albumin about 3 per cent. less than at any time during his illness. He made a rapid convalescence.

Case II.—A. D., thirty years of age, a cattle-dealer. He arrived in Havana two months ago. On the 15th of October at about 4 P.M. he felt chilly after a shower-bath and lay down to sleep. At about 7 P.M. he awoke with general malaise. During the following night he had a severe headache; next morning felt feverish, rachialgia and nausea. A physician was called, who prescribed a calomel purge followed by a dose of magnesia. We saw the case the following morning. Oct. 17, 1899, A.M.—Temperature, 102.2° F.; pulse, 74; respiration, 22. The face is much flushed, also the neck and chest, with some capillary stagnation. He says that he feels well, except for "that pain in the back." The conjunctivæ and gums are much congested; the latter are swollen, the tongue slightly furred and dry, the papillæ enlarged, the border indented by the teeth. The epigastric tenderness is marked; there is some constant and distressing nausea, but no vomiting. The spleen is enlarged, also the liver; neither one is tender to pressure; the patient says that he suffered repeatedly from attacks of malaria in Missouri, about two years ago. He never had rheumatism, but had gonorrhea up to one month ago. He does not drink to excess. Diagnosis of yellow fever seems clear. He lives at home and is properly isolated. Oct. 17th, P.M.—Temperature, 100.4° F.; pulse, 70; respiration, 22. He feels well enough to get up, except for some slight headache. This morning's urine contains 0.50 grm. of albumin per liter (Esbach's albuminometer), also pus-cells and epithelium. The patient is given a subcutaneous injection of 20 c.c. of serum (marked Bubeck, 9-19-99) at the outer aspect of the left thigh. He is allowed to drink Apollinaris water and lemonade. Oct. 18th, A.M.—Temperature rose at 9 P.M. to 102.4°; pulse, 72; respiration, 24. At 10 P.M. it was necessary to draw 300 c.c. of urine by catheter. Soon after he vomited a small amount of clear gastric juice. Temperature, 101.2° F.; pulse, 70; respiration, 20. He complains of a gnawing sensation at the stomach, but has no nausea; there is tenderness on slight pressure. At 6 P.M. he voided 250 c.c. of urine containing 1 grm. of albumin per liter (Esbach's albuminometer), also epithelial bladder and kidney cells. Oct. 19th, P.M.—It was impossible to see the patient this morning. The temperature was down to 100° F.; pulse, 68; respiration, 20; but at present it is 101.4°: pulse, 70; respiration, 22. The gums are puffy and ready to bleed if pressed upon. Vomited clear mucus during the night; he seems much prostrated. The stools have been yellow; the enemata have brought forth only mucus or yellow feces. During the last twenty-four hours he has passed 1268 c.c. of albuminous urine, 0.50 grm. of albumin to the liter (Esbach's); also some bladder epithelium and hyaline casts. At 4 P.M. he is given a second injection of convalescent's serum (marked Bubeck, 9-19-99) 20 c.c. under the skin of the other thigh. Oct. 20th, A.M.—The patient passed a comfortable night. At 8 P.M. last night the temperature was 100.6° F.; pulse, 66; respiration, 20. Through a slight misunderstanding, the attending physician ordered some broth given, which was immediately vomited; at 8 P.M. the patient's general condition is much improved; his eyes are tinted yellow, the skin slightly so. There is no pain or tenderness at the site of the injections. There was no reaction after yesterday's injection. There is barely any epigastric

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tenderness. Patient would like to have some food. Oct. 21st, A.M.—Patient sitting up in bed. Says he is hungry. The sclerotics and skin are very yellow. Temperature, 99° F.; pulse, 64; respiration, 18. He says that he is very weak, but asked his nurse to sit up, because "his bones ached from lying in bed." The patient is evidently entering into convalescence at the sixth day after invasion. The urine still contains albumin in small quantity. The absence of any hemorrhage is remarkable, and considering the severity of the initial symptoms it can only be attributed to the antitoxic effects of the serum. This man made an uninterrupted recovery.

Case III.—B. F. Markwood, about twenty-four years old, admitted Oct. 24, 1899. The patient was taken sick with nausea and vomiting on Oct. 22d. He lived in the same tent at Cabañas Fortress with a man who developed yellow fever at the same time, and died of it; he had also been exposed to infection from a case in the same camp a week before. He had been ill two days before he began to vomit, with headache and "bone-aches." He has vomited "brown stuff" twice. Says he does not drink to excess. He never had venereal disease nor malaria or rheumatism, but had scarlet fever when a boy. Oct. 24th, P.M.—On admission, temperature, 103° F.; pulse, 74; respiration, 20. He complains of a gnawing at the stomach, headache, and rachialgia. There is some bleeding from the mouth, the gums and conjunctivæ are very congested, the latter have a distinct yellowish tint. There is capillary stagnation at the neck and chest. He is given 20 c.c. of serum (marked Stokes, 10-23-99), under the skin of left thigh. Albumin in urine on admission, 1 grm. per liter (Esbach's). Looks like a case in the fourth or fifth day after invasion. Oct. 25th, A.M.—After yesterday's injection the temperature rose to 103.6° F.; pulse, 74; respiration, 24. During the night it ranged around 102.6° F. At present, temperature, 102.4° F.; pulse, 78; respiration, 25. At 1:20 A.M. he had a "black vomit" and some hemorrhage from the gums; at 3:40 A.M. he again vomited a quantity of mucus with some "fly-wing" specks. The gums do not bleed at present. He complains of epigastric pain and headache which "comes and goes" at times. Oct. 25th, P.M.—The hemorrhages have ceased. Temperature, 103.6° F.; pulse, 76; respiration, 24. The pulse is full and compressible. There is great depression. He is given a second injection of 20 c.c. serum (marked Duverrier, 10-22-99). Has passed 868 c.c. of urine during the twenty-four hours; it contains 1 grm. per liter (Esbach) red blood-corpuscles, granular and epithelial casts in quantity. Oct. 26th, A. M.—The patient spent a rather comfortable night. The injection yesterday produced no reaction. The temperature from 103° came down to 102° three hours afterward; at present temperature, 102.8° F.; pulse, 87; respiration, 23. Has not vomited during the last twenty-four hours. His expectoration is streaked with blood; the gums bleed slightly. He complains of feeling hungry. He is allowed 25 c.c. malted mik every three hours. Oct. 26th, P.M.—The patient vomited the malted milk, which was immediately discontinued; he complains again of nausea and gastric distress. Temperature, 103° F.; pulse, 80; respiration, 26. Petechial spots have appeared over the arms and chest. He is allowed to drink lemonade and lithia water. He has passed 1990 c.c. of urine in twenty-four hours. It contains 1.50 grm. albumin to a liter (Esbach), numerous renal cells in fatty degeneration, granular and epithelial casts, some pavement epithelium and many fat globules. Oct. 27th, A.M.—The patient is very thirsty and complains much of abdominal pain. It was necessary to draw 120 c.c. by catheter last night. Temperature, 98.8° F.; pulse, 99; respiration, 30. There is great prostration and the numerous purpural spots are ominous of a fatal termination. Oct. 27th, P.M.—At 2:15 P.M. the temperature was 98.8° F.; pulse, 98; respiration, 38. There have occurred two "black-vomits." Enemata bring out tarry particles. There is great pain and marked kidney impairment. Warm baths, dry cupping, etc., have not seemed to affect the elimination. He has passed but 360 c.c. of urine in twenty-four hours; it contained albumin, 1.50 grms. per liter (Esbach), numerous red blood-corpuscles, free fat globules, renal and ureter epithelium, granular and epithelial casts. Oct. 28th.—The man died at 2:05 A.M. after a vomiting spell. It was after much questioning of the patient and his friends that we confirmed the suspicion that when admitted to the hospital on Oct. 24th, he was in the fifth day of his disease, or else we would never have injected him with serum, for we know that cases admitted at this stage of the infection usually terminate fatally.

Case IV.—John W. Buckman, twenty-eight years of age, sailor, admitted Oct. 26th. The patient has been living at Cabañas Hill with carpenters at work on the fortress. He was taken sick on the 25th, when he felt ill and his head began to ache; pains in the back and legs came afterward. Vomited at 3 in the morning, subsequently feeling much better. He is a constant drinker. Oct. 26th, P.M.—The patient complains of chilly sensations, the face is flushed, eyes injected, gums swollen, tongue badly coated, and breath offensive. His pulse is full and regular. He has a dull expression, is blue-eyed and fair-skinned. Temperature, 103° F.; pulse, 86; respiration, 20. We gave him 15 c.c. of convalescent's serum (marked Duverrier, 10-22-99). Oct. 27, A.M.—At 10 P.M. last night it was necessary to draw 770 c.c. of urine by catheter; it contained traces of albumin, fat globules, a few pavement epithelia. Temperature, 101.2° F.; pulse, 76; respiration, 22. Oct. 27th, P.M.—The patient was again catheterized and 475 c.c. of urine withdrawn. He is resting quietly and says he feels comfortable. The heart action is good. Temperature, 102.2° F.; pulse, 84; respiration, 27. The face and neck are very much congested.

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We gave him 15 c.c. of serum (marked Duverrier, 10-22-99). Oct. 28th, A.M.—Temperature, 100.8° F.; pulse, 74; respiration, 22. He has voided 525 c.c. of urine this morning and feels otherwise well except for a slight gastric tenderness. Oct. 28th, P.M.—The patient complains of nothing but slight gastric pain He has slept a good part of the day. The urine contains 0.25 grm. of albumin per liter (Esbach's albuminometer), a few epithelial cells and mucus. Oct. 29th, A.M.—The patient says he is hungry this morning. Temperature, 99° F.; pulse, 54; respiration, 20. He complains of some pain in the bones, probably from the prolonged recumbent position. Has passed 1870 c.c. of urine during the last twenty-four hours, containing 0.20 grm. per liter of albumin (Esbach's) and some mucus. Oct. 30th, A.M.—Complains that the beef extract does not agree with his stomach; desires malted milk. The enemata produce pain in the anus; they are discontinued. Temperature, 99.2° F.; pulse, 64; respiration, 20. Has passed 1760 c.c. of albuminous urine during the last twenty-four hours, 0.25 grm. of albumin per liter (Esbach's). Oct. 30, P.M.—The patient has continued to improve; his gastric tenderness has left him. Temperature, 99.2° F.; pulse, 54; respiration, 20. Oct. 31st, A.M.—Our patient spent a very quiet and comfortable night. The pulse, although very slow, is full and regular. He has voided 1465 c.c. of urine in twenty-four hours. It contains a trace of albumin and mucus. Temperature, 98.8° F.; pulse, 50; respiration. 20. This man made a rapid and uninterrupted recovery.

He received but 30 c.c. of convalescent's serum in two injections, one on the second, and another on the third day of his illness. The temperature began to subside after the second injection, and he was practically convalescing on the fifth day after invasion. The onset was severe and the initial symptoms promised a serious case; the fact of his being a "constant drinker" decidedly pointed against a cheerful prognosis There has been no hemorrhagic tendency. The gums became puffy and congested, but never bled; the patient has not vomited at all during his confinement at the hospital in spite of the gastric irritation and the fact that we allowed small quantities of nourishment at stated intervals throughout. Absolutely no other treatment but that outlined here was employed.

Case V.—Guillermo Hernandez, twenty-six years of age. Spanish peddler; has been about ten years in the island, always living in the country, coming to town only for the purpose of buying merchandise. Lately he has resided in the city for about ten days. He has never been sick except with malarial fever, of which he has been suffering for one or two years. Admitted as suspicious yellow fever on Nov. 14, 1899. On Nov. 12th, in the afternoon, he felt chilly and thought he was going to have one of his usual malarial attacks; fever soon followed and then pains over all muscles, bones and small of the back, such as he had not felt with other malarial paroxysms. He has not vomited, but is a little nauseated. Nov. 15th, A.M.—The patient is resting quietly. Temperature, 100.6° F.; pulse, 88; respiration, 28. Complains of body-pains, headache and general malaise; also some colic the result probably of a cathartic that was administered this morning. The patient is dark-skinned with dark hair and eyes. There is some capillary stagnation; a flush, more perceptible on pressure, extends over the face, neck and chest. Slight epigastric tenderness. Eyes congested and the sclerotics stained yellow. The tongue is furred, moist, indented at the edge by the teeth. The gums are congested. The urine contains 0.10 grm. of albumin to the liter (Esbach's albuminometer). He is given subcutaneous injections of convalescent's serum, 35 c.c. in two doses (marked Peterson, 10-31-99). Nov. 15th, P.M.—The temperature has suddenly risen to 105° F.; pulse, 120; respiration, 30. The patient complains of great thirst and of pain in the whole body. Of course it is at once suspected that the man really has malaria and not yellow fever; but the writer is of the opinion that we have to deal with a case of double infection, such as he observed at Santiago, and six of which he has lately reported before the "Societad de Estudios Clinicos" of Havana (*Progreso Medico,* October, 1899). Nov. 16th, A.M.—As expected, the temperature came down during the night to 97°, and it was necessary to administer a small dose of brandy. At present he feels better. Temperature, 100° F.; pulse, 76; respiration, 24. During the last twenty-four hours he has passed 1200 c.c. of urine; it contains 0.25 grm. of albumin per liter (Esbach's), granular and epithelial casts and renal epithelium. The icterus is greater than yesterday. There is slight headache. The tertian malarial parasite is found in his blood. Three grains of quinine are ordered every hour. Nov. 16th, P.M.—The patient complains of epigastric pain, headache and "backache"; there is some nausea. He has vomited twice a quantity of gastric juice and mucus, without any trace of "coffee-ground" matter. Nov. 17th, A.M.—The patient has passed 730 c.c. of urine during the last twenty-four hours, containing 0.25 grm. of albumin per liter (Esbach's albuminometer), also mucin, hyaline and granular casts. At present the temperature is 101° F.; pulse, 78; respiration, 20. The blood shows the presence of a few pigmented leucocytes but no plasmodia. The quinine is discontinued. There has been no evidence of hemorrhagic tendency in spite of the symbiosis which evidently exists in this case. The icterus is marked and the gums are puffy and ready to bleed if compressed. Nov. 17th, P.M.—The patient asks for food. Temperature, 98.8° F.; pulse, 62; respiration, 18. The tongue is coated and rather dry. Nov. 18th, A.M.—The patient has slept well during the night. Temperature, 98° F.; pulse, 52; respiration, 16. During the last twenty-four hours he has voided 1820 c.c. of urine containing 0.50 grm. of albumin per liter (Esbach's albuminometer), a few

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hyaline casts and renal epithelium. Nov. 19th, A.M.—The patient continues to do well. The urine still contains a small quantity of albumin and some renal epithelium. He has passed 1220 c.c. of urine in the last twenty-four hours.

Major Ducker is of our opinion that the case was one of yellow fever infection occurring in a malarial cachectic. The high temperature with the low pulse and the marked albuminuria left no room for doubt of the yellow fever infection, while the presence of the malarial organism soon after the sudden rise of the temperature, and its disappearance upon the exhibition of quinine, bore sufficient evidence to the paludic invasion. That cases in which this symbiosis has been observed are more prone to the hemorrhagic tendency than those of a single infection has been pointed out by the writer in the article referred to; yet in this case, as in the other three here recorded, where the convalescent's serum has been administered before the fourth day of the disease, absolutely no hemorrhagic tendency has shown itself. Two things have been forcibly impressed upon us while carrying out these experimental injections; one has been sufficiently noted, *e.g.*, the absence of hemorrhagic tendency; the other is the rapidity with which patients who received the serum went through the period of convalescence; the fever having once left them, their reparative functions were quickly started and they were ready to return to their business in an unusually short period of time.

It may not be untimely to state that there were other patients than those here recorded also treated by serum injections, all of whom recovered, but we have purposely left them out, because through a misunderstanding they were given some medication or other during their illness, in addition to the convalescent's serum, and we fear that if we counted them among the cases who received nothing but serum, their recovery might be attributed to the phenacetine, or the caffeine, or the calomel, or what not, that was given them, and which certainly exerted no action upon the yellow fever toxins. That the serum of convalescents is perfectly innocuous we have demonstrated upon our own person. It is more readily absorbed than the equine serum; but it has never produced any cutaneous manifestation, and within twenty-four hours every sign of the injection has disappeared, except, of course, at the point of puncture, where a minute red spot may be visible. We know, it need not be pointed out to us, that four cases can hardly be considered as sufficient evidence upon which to base any final opinion, but it cannot be denied that the disease has been distinctly modified in every instance (not counting Case No. III, where the serum was administered by mistake at the fifth day of his illness) and we have refrained from injecting (and we shall continue upon the same course) any cases which were seen after the fourth day of the invasion.

There are numerous facts still to be ascertained with regard to this method of treating the disease, not the least important of which is the determination of the power in each individual serum and the amount required in the treatment of each case, but this can only be done after a comparatively large number of cases have been studied, which we believe will be an easy matter in the early future. The therapeutic value of these injections once established on a plain and scientific basis, their immunizing power can more easily be determined, and it is not unlikely that a much smaller quantity than that used in treatment will render the necessary protection to individuals whom we to-day consider as non-immunes. The impending and necessary foreign immigration to this island would be very greatly benefited by it.

CLINICAL MEMORANDUM.

A CASE OF POST-EPILEPTIC AMNESIA.

BY DAVID TRUMBULL MARSHALL, M.D.,
OF NEW YORK.

THE following case is reported not because of its extreme rarity, though the general practitioner is not so liable to observe the phenomena as are residents of hospitals for the insane or homes for the epileptic and feeble-minded, but because of the gradual increase of interest that is manifested, especially from a medico-legal point of view, in the protean aspects of this peculiar disease, epilepsy. The amnesic period, ten days, is not very long, yet it was of sufficient length to have allowed the patient to have committed peculiar acts or even crimes had she not been kept at home and promptly restrained by drug influences. The difficulty in obtaining a history of epilepsy was also brought out in the present instance and emphasized the necessity of searching examination, as it was only after the entire period of illness had passed that it was admitted that the patient had ever had any "twitching" movements when she had her "fainting" spells, as they were termed.

Miss B., aged twenty-two years, five feet eight inches in height; weight, 150 pounds; occupation light housework.

Family History.—Her father was a professional man, and was for years a heavy drinker. He died at the age of forty-one years, of "inflammation of the bowels."

The mother still lives, at the age of forty years. She is a healthy woman, although somewhat nervous. One sister, twenty-four years of age, has always had chorea. Two brothers, respectively seventeen and fourteen years of age, are apparently normal.

Personal History.—The patient had measles and diphtheria in infancy, scarlet fever at the age of five years. She has always been well until she began to menstruate, at the age of twelve years. At sixteen years of age the patient began to have peculiar attacks of fainting, with occasional attacks of a more general convulsive nature.

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The severe attacks were never of the worst type of *grand mal*. They usually consisted of a stiffening of the limbs and muscles of the face, which lasted for one or two minutes. These attacks have persisted since the age of sixteen, coming on at intervals of one or two weeks. They are apparently more frequent at the menstrual period and after excitement or over-exertion. There was no uniformity in the mode of their onset and they were not preceded by any aura, nor for the majority of instances could a history of hebetude or sleepiness following the attack be obtained. The patient exhibited none of the numerous stigmata often associated with this condition. For a week previous to November 3, 1899, the patient had been cross and moody and suffered more or less from headache.

On October 30th, it being about the time of a menstrual period, the patient began to suffer severely from dysmenorrhea and pain in the ovarian region. On November 2d she had a fainting attack, as her mother expressed it, fell face downward on her bed, and remained motionless for several minutes. No muscular twitchings were noted by her mother. On attempting to arouse her she became violent, tore her clothing and struck at all who came near her. I first saw the patient at this juncture. She was in bed, was talking rapidly and incoherently, and attempted to tear the bed-clothing. Her own night clothing she had torn in shreds. She did not have any knowledge of her surroundings and did not recognize her mother nor sister. As she was so extremely violent, raising her voice, crying and screaming, she was given a hypodermic injection of one-half of a grain of morphine sulphate, which quieted her somewhat for a short time. This dose had to be repeated next day. On the third day she became more quiet, and one one-hundredth of a grain of hyoscine hydrobromate was substituted for the morphine. This was given by mouth two or three times a day.

After the first three days of violent behavior the patient talked and laughed with her friends, but she imagined that she was at a school where she had been when fifteen years of age, and that these friends were teachers and pupils in the school. Her mother, who was in constant attendance upon her, was thought to be the head teacher; and her brother she took to be one of the attendants in the kitchen of the boarding-school.

She had utterly forgotten every impression that she had received since she was fifteen years old. A diagnosis was made of post-epileptic furor followed by some amnesic state, although the mother and sister tried in every way possible to evade a searching history. The diagnosis was confirmed in consultation with Dr. S. E. Jelliffe, and a hopeful prognosis with reference to the immediate condition was given. On the tenth day after the beginning of the attack the patient suddenly became rational, and has remained so since. She has no recollection of any incident which occurred during her illness.

Later investigations revealed a more straightforward history of epilepsy than could be obtained at the time, as it was the desire of the family to keep all knowledge of the facts of her previous attacks from every one in order that matrimonial prospects might not be blighted.

205 West 106th street.

MEDICAL PROGRESS.

Treatment of Aortic Aneurism.—The recently recommended gelatin-injection treatment is the subject of an article by N. Kalendern (*Klin. therap. Woch.*, Jan. 28, 1900). The first indication to be met in curing aneurism sacs is to eradicate as much as possible the cause. Syphilis being the most common etiological factor, an antiluëtic treatment would seem in place were it not for the fact that in the majority of cases the media is too much destroyed to admit of good results. By increasing the coagulability of the blood the sac may, however, be obliterated, and this is most efficiently accomplished by the use of gelatin. As an example, the case of a patient with aneurism of the transverse arch is cited, in which paralysis of the recurrent nerve was the prominent feature. Although of undoubted syphilitic origin the iodides aggravated the condition. Gelatin injections (1 gm. gelatin in 100 c.c. sodium chloride solution once a week) were then resorted to, with the remarkable results that after five weeks the patient was practically free from symptoms both subjective and objective.

Crurin in Ulcers.—Crurin (chinolin bismuth rhodonate) forms a coarse, yellowish-red powder of strong odor and insoluble in the usual media. It is disinfectant and furthermore forms a scab on ulcers and leads to active granulation and rapid healing. K. Steiner (*Therap. Monatshft.*, Jan., 1900) is well pleased with the results he has obtained in ulcers of the leg and finds that even in chronic cases with much induration, a healthy reaction is incited if moist applications of Burrow's solution are used for some time before applying crurin. It is generally best to use it pure unless the raw surface is extensive, when it may be diluted with starch. Following the application some smarting usually occurs, but this is of transient character. A cure is generally affected in from two to six weeks, and this method of treatment should be given a fair trial before surgical intervention.

Largin for the Eye.—Marczel Falta reports (*Wiener klin. Rundschau*, Jan. 21, 1900) on the newest of the silver preparations, namely largin. Heretofore, protargol possesed marked superiority over its fellows, both in the percentage of silver and in its general therapeutic properties. Largin, however, has superseded it inasmuch as it contains fully 11 per cent. of silver, whereas protargol has but 8 per cent. Not only in this re-

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spect does largin merit consideration, but it also far exceeds protargol (Pezzoli) in its germicidal powers. Indeed, even the nitrate of silver suffers in comparison with this preparation. A solution of 1-4000 of largin will kill the gonococci of a pure culture in ten minutes, while neither silver nitrate 1-2000 nor protargol will accomplish this. Pezzoli has demonstrated that none of the other silver compounds has such a power of penetration as has largin. The power of the tissues to take up this drug is one of the chief reasons for its successful use, especially in cases of conjunctivitis and diseases of the lachrymal ducts. The eye can readily bear a solution of 10 per cent. strength although a slight inflammation, evidenced by reddening and a little pain, is caused thereby. Instillations of largin several times daily are recommended in severe conjunctival affections with large amounts of secretion. The secretion rapidly diminishes in amount and a return to the normal condition follows. In cases in which both protargol and largin have been used, the author prefers and recommends the latter. The only drawback is a slight inflammation following its use. This is caused by its alkalinity, which, instead of being baneful, is in reality of great use to the drug in its therapeutic application.

Ichthyol in Joint Affections.—Stimulated by the good results following the use of ichthyol in chronic rheumatism, G. Edlefsen (*Therap. Monatshft., Jan.,* 1900) was led to try a more recent preparation, ichthyolvasogen, in this and allied conditions. The great powers of penetration possessed by this compound have proven it of especial value in the chronic monoarticular arthritis following the acute lesion and even in the polyarthritic form, and in arthritis deformans it did not disappoint. Eight to ten drops should be used for the larger joints and two for the smaller ones; when well rubbed in the good effects of massage will be added to the curative action of the drug. In conditions where much tenderness exists, however, massage is contraindicated and the usual solution of ichthyol in alcohol and ether is to be preferred.

Imperforate Rectum.—W. P. Montgomery (*Lancet,* Feb. 3, 1900), having operated on ten cases of imperforated rectum, makes these observations: In no instance did crying cause the perineum to bulge. The cases were treated by doing left inguinal colotomy, but the cecum presented three times, the sigmoid once, and, in the remainder, the small intestine. In only two cases was there distention of the lower end of the large bowel. Peritoneal repair in these small children is very slow and inefficient and, therefore, especial care should be used in the suturing at the colotomy. In two of the cases the obstruction was at the cecum, which was twisted so as to form a volvulus. From the life-saving point of view the perineal route has marked limitations. In the majority of cases the gut cannot be found; such children cannot endure prolonged operation. The acute obstruction is often at the cecum. The anus in the groin is more comfortable and easily cared for than the perineal one. The majority of children recovering from the perineal operation require constant attention to prevent stricture formation. If more than one half-inch separates the rectal pouch from the surface, a perineal anus causes constant trouble. In view of all these facts, routine colotomy is the best procedure for these patients.

Appendicitis.—J. O'Conor (*Lancet,* Feb. 3, 1900), after considerable experience with appendicitis, makes the radical statement that every case of appendicitis should be operated on as soon as diagnosticated, and gives the following reasons: No one can at the attack's onset predicate a spontaneous cure. Perforation without adhesions may suddenly occur in any case, and this complication is invariably fatal. Removal of the appendix is the most accurate method of diagnosis and cure, and the patient will never again have appendicitis. An appendix once infected is always infected and remains prone to a recurrent attack. When no actual recurrence takes place, the adhesions so frequently formed cause chronic digestive and various painful disturbances rendering life miserable. Once having entered the abdomen, never consider the operation finished until the appendix has been removed. When the abscess is simply drained, recurrent attacks are very frequent. To leave a moribund appendix in a living abdomen is not sound surgery.

Chronic Constipation in Infants.—It is an every-day observation that costiveness is more frequently seen in children brought up with artificial food than in those fed with mother's milk. H. Doerfler (*Münch. med. Woch.,* Jan. 23, 1900) ascribes this to the too great dilution in which cow's milk and other substitutes are given. A hyperemia is established in the gastro-intestinal mucosa by the fluid, which soon leads to increased absorption of water and polyuria. If this pathological condition persists it will eventually become chronic; the follicles will no longer be able to assimilate so thoroughly the solid constituents of the food, and constipation is inevitable. From the character of the feces it can be seen that the usual food is too dilute and contains too little fat and that the casein is not well digested. Hence it is advised to give cow's milk in smaller but more concentrated form, and also to add butter to the diet. This latter should be given separately and should be as fresh as possible. Children two to three months old should receive a teaspoonful morning and evening until relieved, then the same dose every second day. It is usually taken readily and not only is the indicatis morbi met, but the general health is much improved.

Plasmon as a Food.—Within the last years great efforts have been made to discover some proteid which could replace the albuminous principles of our food in disease. Such a compound

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must be sufficiently cheap to make its use among the lower classes possible, and should be pleasant to take so that its continued use will not nauseate. C. Virchow (*Therap. Monatschft.*, Jan., 1900) thinks that in plasmon the ideal compound has been found. By experiments on himself the author has discovered that plasmon is perfectly digestible and, since almost all the nitrogen is used, concludes that it exceeds meat in nutritive value. It may be given as bread or in solution, but can probably be combined with many articles of food.

Iodoform in Tuberculosis.—Zera J. Lusk (*Medicine*, Feb., 1900) attributes the cure of three cases of tuberculous peritonitis to the application of an iodoform poultice from the ensiform cartilage to the pubes and on either side to the spinal column. The poultice consisted of one ounce of iodoform and six ounces of vaseline spread on cloth. He also applied such a poultice to the chest in a case of pulmonary tuberculosis, and to the knee in tuberculous synovitis. Rapid recovery took place in each instance.

Dilating Esophageal Strictures.—J. S. Pyle (*Phila. Med. Jour.*, Feb. 3, 1900) describes his apparatus for stricture dilatation. It consists of a No. 12 rubber tube having attached to its distal end a finger-shaped contrivance, consisting of external and internal tissue-rubber sacs, enclosing between them a fine silk sac to give strength. An olive-pointed piano wire guide is inserted, and the apparatus passed into the esophagus until the guide has carried the dilatable sacs partly beyond the stricture. Warm water is now forced in gradually and the stricture dilated as the sacs expand. The sacs may be in graded sizes. The operation causes little discomfort, an anesthetic is not necessary, the patient is not confined to bed, one has a perfectly controllable, evenly exerted, dilating force, and the risks involved in Abbé's operation, which necessitates gastrostomy, are avoided.

Prostitution and Venereal Disease.—Prostitution is the indiscriminate abuse or use of the sexual instinct outside of the marital relation and must apply in its broadest definition to woman and man alike. Isadore Dyer (*Phila. Med. Jour.*, Feb. 10, 1900) does not think the world manages the question of prostitution entirely right. He does not believe in restriction, as it usually makes the probability of disease greater. The tendency of womankind, in this country, to assume a place in all ranks of livelihood and life, side by side with men, is, the writer thinks, doing much to free the next generation of women from the control of man. This is being done by education, whereby all classes, ages, and men are acquiring a healthy knowledge of sexual obligations and of the conditions which are conducive to sexual abuse, and which create the morbid instinct. The strongest factor in the reform of women must be her emancipation through her raising the intellectual standard of her sex. The writer believes that prostitution can be checked and venereal diseases abated (1) by education of children before and as they become sexually mature, by teaching them physiologic, especially sexual, laws; (2) by creating a spirit of tolerance, rather than of abhorrence of fallen women in the minds of men and women, and by opening unadvertised homes where they may find opportunities of education in interesting lines and wholesome occupations; (3) by recognizing the fact that a prostitute, or sexual pervert, is a victim of civilization, and not a criminal. Various means have been taken by different countries to restrict venereal diseases, but they are not very successful. Dyer believes that all cases of gonorrhea and its acute complication, in public patients, should be confined in hospitals, and also all cases of syphilis as far as possible, during the eruptive stage or any acute manifestations of the disease. He thinks that legal restrictions should be made whereby those afflicted with syphilis and gonorrhea may be prevented from infecting others. Such a law would be difficult to enforce, but the educational effect would be good

Mixed Typhoid and Malaria.—Although the cases in which typhoid and malarial fevers simultaneously occur are frequently reported, a positive diagnosis can seldom be made and the combination of the two is probably extremely rare. The case of a soldier in the recent war in Cuba is reported by J. L. Bevans (*N. Y. Med. Jour.*, Feb. 10, 1900). A characteristic course of typhoid was run for eleven days, when quotidian chills developed and the malarial organisms were found for the first time, although previous examinations of the blood had been made. The administration of quinine stopped the chills and two days later malarial organisms could not be found. The temperature curve and symptoms of typhoid then persisted for twelve days. The Widal test proved negative each time until after the malarial attack had ceased and then a slight clumping appeared, followed in a few days by a positive Widal reaction.

Bradycardia.—Bradycardia is the name given to those cases of slow pulse—below 60—which are synchronous with the heart's systole. Richard F. Chase (*Boston Med. and Surg. Jour.*, Feb. 8, 1900) reports a case in detail and presents a table of 35 cases collected by himself under the heading of idiopathic bradycardia. This condition in his opinion is of common occurrence. Men are affected more often than women. The average age at which it occurs is about sixty. He does not agree with the classification of this disease by Riegel into physiological and pathological bradycardia, nor with any other previous classifications, but divides the cases into (1) physiological bradycardia, those cases due to physiological conditions only; (2) idiopathic bradycardia, which consists of those cases occurring in advanced life without discoverable cause; and (3) symptomatic bradycardia, to which class belong those cases in which the slow pulse is a

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symptom of some usually known condition. The bradycardial symptoms consist of attacks of syncope, vertigo, dyspnea, and sensitiveness to cold. The outcome of the idiopathic cases is usually fatal. The immediate cause of bradycardia may be due to (*a*) a condition of the nerve centers producing irritation of the pneumogastric or paralysis of the sympathetic (accelerator) nerves of the heart; (*b*) a condition of the pneumogastric which increases its irritability; (*c*) a condition of the sympathetic nerves paralyzing them; or (*d*) to some condition of the cardiac ganglia in which the influence of the pneumogastric preponderates; or (*e*) to a condition of the heart muscle whereby it fails to respond to normal stimulus; or (*f*) to poisons acting on the nerve centers or endings. Not much is known of the physiology or pathology of bradycardia. In 31 autopsies, however, the following lesions were found: Disease of the brain in 6; disease or injury of cord in 8; disease of heart in 10; disease of circulatory system in 5; and no lesion in 2. The treatment should consist of the removal of the cause when it is known, and in other cases it must be symptomatic although the majority of cases show little benefit from treatment.

Albuminuria.—Formerly albumin in the urine was thought to mean Bright's disease, but it is now commonly accepted that there may be albuminuria without Bright's disease, and that the occurrence of a particular proteid in the urine carries with it a significance peculiar to itself. Thos. P. Prout (*Phila. Med. Jour.*, Feb. 10, 1900) says that no less than five proteids are found in the urine, *viz.*, (1) serumalbumin; (2) serumglobulin; (3) nucleo-albumin, or mucin; (4) peptone; (5) albumose, or propeptone. He describes these proteids and says that the first two are of special importance because of their association with nephritis. Mucin is usually present normally in small amount in the urine. Peptone and albumose should never appear in normal urine. Serumalbumin in the urine may be due to (1) renal disease, or (2) to the pressure of pus, spermatozoa, blood, or elements of tumors. Urine containing these substances will give the albumin reaction. Renal albuminuria may be divided etiologically into (1) that following certain febrile diseases: (2) nervous albuminuria, following some diseases of the central nervous system; (3) hematogenetic albuminuria; (4) toxic albuminuria; (5) albuminuria of pregnancy; (6) congestive albuminuria; (7) albuminuria due to long-continued exposure. In these conditions the amount of albumin in the urine varies according to the cause. In some there will be no albumin, or at least a mere trace, and in others it may be present in the urine at one time and absent at another. The appearance of pepton in the urine is pathologic and is of interest in certain conditions. Being an element of pus it is expected in the urine in cases of empyema, or other extensive pus-formations. The writer looks for it in (1) the ulcerative stage of typhoid fever; (2) suppurative processes; (3) pneumonia, at the crisis; (4) after childbirth, (5) in carcinomatous affections, and (6) in phosphorus poisoning. The absence of pepton from the urine does not necessarily indicate that suppurative lesion is absent, but its presence is of considerable corroborative value. Albumose is not of much importance as yet. Mucin is increased in quantity in the urine in urethritis and cystitis and is, therefore, of some diagnostic value. Prout describes six tests for finding albumin, mucin, albumose, and pepton.

Inguinal Hernia in the Young.—J. W. Seaver (*Yale Med. Jour.*, Feb., 1900) publishes a non-operative treatment of hernia in young people. It is best adapted to herniæ of moderate size and duration. After the hernia is controlled by a suitable truss, the patient twice a day goes through exercises planned to develop the muscles in the abdominal region, as well as those which deepen the chest, and thus make more room in the abdominal cavity. The exercises are gradually made more severe and complex. Under this treatment there is a natural tendency to the closure of the abnormal aperture. Local massage of the ring region starts up a cell activity that markedly strengthens the tissues. Under this treatment seventy per cent. of the cases have been freed from the necessity of wearing a support to control the hernia.

Nervous Dyspepsia.—Boardman Reed (*Internat. Med. Mag.*, Jan., 1900) considers this to be a local condition of the same type as general neurasthenia. The term should be applied only to those gastric symptoms which cannot be traced to any organic lesion or to any well-known disorder of function. Any stomach disease may be mimicked, but in nervous dyspepsia the discomfort is, as a rule, limited to the digestive period, the patient feeling well while the stomach is empty. The dyspeptic symptoms have no definite relation to the kind of food ingested, but come on as readily after a simple meal as after an elaborate dinner. Among the intestinal symptoms are constipation, diarrhea, membranous colitis, gaseous distention, and especially certain tender areas over the colon. The diagnosis is based on the exclusion of organic disease, with variability in the test-meal washings and the absence from them of excessive mucus. A depressed nervous condition must not mislead, as this often accompanies other gastric troubles. The treatment consists of rest, seclusion, overfeeding, gentle massage of abdomen, and electricity, for from four to eight weeks; then healthy out-door exercise and diversion, with plenty of nutritive and tempting food. As a tonic sodium glycerophosphate with strychnine should be given; and if the gastric juice is deficient add hydrochloric acid and pepsin, or papain. Keep the bowels open by exercise and massage, aided, if necessary, by cascara or aloes, or, if the tendency is to hyperacidity, by calcined magnesia or sodium sulphate.

Serotherapy in Tuberculosis.—The use of serum

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from an immunized animal (usually the horse) in the treatment of tuberculosis was begun with a great deal of hope and expectation a few years ago, but soon fell into disuse, owing to the unfavorable results so often reported and, especially, on account of the danger of lighting up new processes where the germ had probably become inactive. P. Paguin (*N. Y. Med. Jour.*, Feb. 10, 1900) has, however, persisted in this method of treatment and claims for it remarkable results. He gives a report of twenty-nine cases of undoubted tuberculosis of the lungs, throat, bones, joints, kidneys and testicles, many of them having been pronounced hopeless, which, after being subjected to serotherapy, entirely recovered and have remained well from three to four years. He advises, however, combining many of the usual symptomatic methods of treatment and climatic influences, where possible, with the use of the antitoxin serum.

Phototherapy.—The effects of light on the skin are twofold: It kills any bacteria present and sets up an erythema due to the ultraviolet rays of the spectrum. V. Bie (*Therap. Monatshft.*, Jan., 1900) divides phototherapy into negative and positive. In the former the ultraviolet rays are prevented from reaching a skin which is already the seat of a dermatitis, while in the latter these same rays alone are used for their parasiticidal action in the various disease of the integument. Negative phototherapy has been found to be valuable in smallpox. If only red light be allowed to fall upon the skin of patients suffering from variola, many of the pocks will not go on to suppuration and, consequently, the constitutional symptoms will be less severe, the fever of suppuration mild or absent, and the subsequent scarring not deep. In measles, also, the symptoms will be mitigated, and it is probable that in many other exanthemata the results will be no less brilliant. In applying positive phototherapy, the ultraviolet rays, which may be obtained from sunlight or an electric lamp, should reach the skin after having been concentrated by a special lens. The best results have been obtained with the skin in an ischemic condition. The indications in general are that the disease be superficial, local, and of bacteritic or fungous origin. As far as results are concerned, lupus vulgaris, no doubt heads the list. The treatment here is not painful, the recurrences rare, and the cosmetic effects excellent. Lupus erythematosus is less amenable to treatment, but alopecia areata generally yields.

Gastro-intestinal Infections in Infants.—According to I. A. Abt (*Medicine*, Feb., 1900), a simple form of indigestion in breast-fed children is caused by some alteration in the mother's milk, such alteration being due to the occurrence of menstruation during lactation, to acute illness, or to emotional excitment. If the mother's milk is rich in proteid, the child may suffer after each feeding from flatulence, colic, and diarrhea. Such simple dyspepsias are often the predisposing condition leading to gastro-intestinal infection. The undigested and fermenting food material furnishes a pabulum which favors the growth and development of the micro-organisms introduced with the food, or already present in the alimentary tract. Bacteria not pathogenic may under abnormal conditions so increase in number and activity as to cause irritation either of themselves or by their products. Thus the intestinal wall becomes injured, the micro-organisms gain access to the blood and lymph channels, and constitutional symptoms supervene. These latter may also be due to the absorption of the products of decomposition of albuminoid material. In all cases of severe intestinal disorder there is great increase in the number of intestinal bacteria, and it is possible that in most instances these are merely diplococcoid or other modified forms of the bacillus coli communis.

Infectivity of Malignant Growths.—G. B. Smith and J. W. Washbourn (*Edinburgh Med. Jour.*, Jan., 1900) consider heredity, nervous influences, trained, etc., of importance as predisposing factors in the growth of neoplasms, but unsatisfactory in explaining the phenomena of malignancy. Cohnheim's embryonal theory explains certain tumors, enchondromata of bone, dermoid cysts, etc., but again fails to explain malignancy. Chronic inflammation and irritations are important factors in the etiology of neoplasms, and the lines of distinction between inflammatory hyperplasias and neoplasms are not clearly defined. The factor of malignancy is still unexplained. Instead of non-specific irritants, may there not be some definite specific cause of the disease, which by its continued stimulus will account for the progressive growth, locally and in distant parts? There are certain positive evidences, clinical and experimental, of the infectivity of growths; many cases of inoculation have occurred in man, either from contact of a healthy with a cancerous surface, or as a result of operative interference. The possibility of reinfection during operation is so great that malignant cases must be dealt with exactly as if they were infective. Transfer from one to another part of the same individual is possible. With reference to infection from one individual to another, cases present themselves from time to time that are hard to explain by any other assumption. Guelliot collected seventy-seven cases in which there was strong reason to suppose that one person had been infected from another and in seventy-one of these the two affected were husband and wife. Still more remarkable are the localized cancerous outbreaks investigated in England and some of the continental countries, series of cases occurring in the course of a few years in a house or neighborhood. Locality is a distinct factor in the prevalence of cancer. Shallow, low-lying vales, liable to floods and composed of clays, seem to favor the development of cancer. Whether this is due to depressing of the bodily functions, or as aiding the development

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of an efficient cause is not known. Experimentally, inoculations from one to another animal of the same species have been very successful. Transference between different species is difficult, yet a few authentic cases are recorded. In many cases the inoculated neoplasm developed for a time and then underwent retrograde changes and disappeared. For a certain length of time thereafter the animal was immune to further inoculation. In certain other cases the inoculated material showed all the signs of malignancy. In the cells of neoplasms, especially in carcinoma, bodies not present in other lesions are found having the characteristics of micro-organisms of the lower animal or vegetable kingdom, but evidence is still lacking to connect them definitely with the causation of these tumors.

Perforated Gastric Ulcer.—M. Richardson (*Phila. Med. Jour.*, Feb. 3, 1900) says the most constant and important symptom of perforated gastrict ulcer is agonizing epigastric pain, radiating in various directions. Without shock or other sign of peritoneal disturbance, however, this pain has little significance. Accompanied by shock and tenderness the pain strongly indicates gastric perforation, although it may be due to acute pancreatitis, acute cholecystitis, rupture of hepatic abscess, perforation of duodenum or transverse colon, etc. Without pain, acute epigastric symptoms cannot be caused by a perforated ulcer. Within a short time the symptoms of septic peritonitis present themselves. Immediately the diagnosis is reasonably certain, surgical intervention is imperative. A generous median incision gives the most satisfactory view of the abdomen.

If gas is in the peritoneal cavity, one looks for perforation, first, of the stomach, then of the tranverse colon, and, finally, of the duodenum. Having found the perforation, one must decide as to the further technic and nothing requires greater balance of surgical judgment than to select for each case of perforated ulcer the method which will give the greatest safety as to life, and at the same time the speediest recovery possible under the circumstances. Very few cases are in good enough condition to permit of excision of the ulcer and neighboring diseased tissue followed by suture. Direct closure by inverting the edges of the ulcer is simplest and safest. A series of Lembert sutures with a good bite are inserted and then tied while the stomach wall is inverted. They are less apt to tear out than if they are tied one by one, as inserted. A second reinforcing series is then used. When the wall is so infiltrated as to prevent inversion and suture, one must simply provide drainage, and wall off the general peritoneum with gauze. In one case a tight-fitting soft drainage tube was passed through the ulcer into the stomach and provided for drainage, for lavage and gavage. In other cases gauze drains may be passed down to the perforation. The infected peritoneum should be carefully cleaned, and the general cavity protected by gauze and drained when necessary. When the ulcer is inverted and sutures placed, a gauze drain should be carried to the suture line to provide for leakage or tearing out of the sutures. For forty-eight hours feeding must be by rectum, and then small quantities of liquid by mouth may be given. Gastric fistula sometimes occurs, but usually heals spontaneously.

Sexual Function; Insanity and Crime.—There is no more vexed question than this of the relationship that affections of the generative organs in women bear to insanity and to crime. H. MacNaughton-Jones (*Med. Press and Circular*, Jan. 31, 1900) concludes an extended series of observations bearing on this question, as follows: (1) The correlation of insanity and disordered sexual functions arising out of affections of the generative organs is a factor to be taken into serious consideration in the treatment of women mentally afflicted. (2) That where there is ground for the suspicion that some physical condition of the uterus or adnexa exists a careful examination should be made. (3) That in the investigation of criminal acts committed by women, either during the menopause or while the menstrual function is either active or suppressed, due weight should be given to the influence exerted by its irregularity or abeyance on the mind of the woman. (4) That the special dangers of the climacteric period and the symptoms indicative of threatening climacteric mania must be recollected. The principal of these are moroseness and depression of spirits, attacks of hysteria, occasional hallucinations of sight and hearing (especially of smell), suspicions with regard to relations, unjust dislikes, unfounded apprehensions of some great crime committed or injury inflicted on them, suicidal tendencies. (5) That in operations on the female generative organs there is a greater predisposition to mental disturbances than after other operative procedures, but the post-operative insanity is generally of a temporary nature. (6) That women who have been previously insane are predisposed to a relapse by the development of disease in their sexual organs, and especially to such temporary recurrence of insanity after operation on these organs. (7) In order to anticipate suicidal impulse and the commission of crime, the disordered mental symptoms exhibited at the menstrual epochs and at the climacteric should be carefully noted, and if the discharge or the cessation of the sexual function be attended by evidence of disease in the sexual organs, an examination of these should be made, and, if gross lesions be detected, operation should be resorted to.

For Obstinate Constipation.—

℞ Ol. tigli .....gtt. i
Pulv. rad. altheæ .....q.s.
Mucil. acaciæ .....q.s.

M. Ft. boli No. iv. Sig. One bolus every 1-2 hours until bowels act.—*Bonchardat.*

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SATURDAY, FEBRUARY 17, 1900.

POSSIBILITIES OF CURE IN DIABETES.

THE modern treatment of diabetes mellitus is encouraging. Instead of the simple absolute withdrawal of all sugar-containing articles from the dietary, there is the rational selection of a food program to which it is possible to persuade a patient to submit without the insistence so necessary under the old régime. Careful study of the amount of glycosuria under a diet containing definite amounts of carbohydrates shows just to what degree the patient's faculty for the absorption of sugar is disturbed. Slightly less than the amount of starchy foods that can be utilized by the system is then allowed. From time to time several days to a week of absolute abstention from all substances containing sugar is insisted on. For several days twice a year a rather liberal diet of carbohydrates is allowed and the systemic metabolism, as far as it regards sugar, carefully estimated once more. Where the dietary regulations have been carefully followed it will often be found distinctly improved in the interval, the system having become able in the meantime to dispose effectively of more sugar than before the treatment was begun.

Where improvement is noted patients are very much encouraged to go on with the careful observation of the regulations. Before the possibility of the restoration of the metabolic faculty for sugar was realized, a lifetime of almost hopeless self-denial seemed the price of health. Now there is a definite term and an encouraging progress, the steps of which can be demonstrated. Any one who knows how liable diabetic patients are to be disheartened at the constant sacrifices required by their ailment, will appreciate the importance of this new aspect of the therapeutics of the disease. The mental state, as is well known, always has great influence on the course of a diabetes. To substitute, then, for the sense of hopelessness so apt to be engendered by constant denial a reasonable prospect of improvement and eventual cure is of itself a most important element in the successful therapy of the disease. The hope inspired in patients that they will ultimately regain their faculty for the metabolism of sugar is not merely illusory, nor is its justification to be found only in its suggestive influence. Such careful clinicians and thorough specialists on the subject as Von Noorden and Naunyn have reported not a few cases in which patients regained their normal metabolic relation to sugar.

The secret of many of these cures, besides the careful regulation of the amount of starches and sugars consumed, lies in the judicious use of the fats. In modern life there has been a departure from old habits in the use of fats in the diet and a substitution of the starchy carbohydrates that is the source of a good many inconveniences. A certain distaste for fats is acquired by many people and an important article of food neglected. Diabetics must be first of all taught to use fats in abundance. They are the only substances that can succeed in stilling the craving for the starches and sugars and can properly replace them. As the result of the insistence on this important principle and the thoroughly rational treatment of the question of limitation, not negation, of starchy foods, a very promising vista is opening up in a field of therapeutics that has been up to the present time a source of a good deal of dissatisfaction to patient and physician.

WAR-TAXES ON BEQUESTS.

A PETITION is about to be presented to Congress asking for an amendment to the war-tax bill of 1898, remitting the present exorbitant tax upon bequests to educational, charitable and religious institutions. According to the terms of

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the law as now in force one-tenth of all such bequests go to the general government. The country is certainly not in a condition to take tithes with any propriety from moneys voluntarily donated to endow or found universities, seminaries or hospitals.

The finances of the Government for the last year, far from showing a deficit, exhibited a handsome surplus. At the present time there is talk of remitting some of the minor forms of tax, as those on express receipts and telegrams. Surely it would contribute more to the commonweal to retain these taxes for the present, if necessary, and give the bequests destined for public charities in all their entirety to the legatees. There is some danger that the much talked of wealth of many of the educational and charitable institutions that are petitioners in this matter may give color to the idea that such a remission of taxes is not demanded by the circumstances. Medical men as a body best appreciate of how much public utility these educational and charitable institutions really are. It devolves on the members of the medical profession, therefore, to bring to bear upon legislators whatever influence they may have in so good a cause. As long as the present generation is ready and willing to assume its own burdens the discounting of the heritage of posterity is absolutely unwarranted.

DIAGNOSTIC VALUE OF "KOPLIK'S SPOTS."

WE presented to our readers last June the first colored reproductions that had ever been published of this important diagnostic sign. The review of the recent literature of the subject and the discussion at the last meeting of the Section on Pediatrics of the Academy of Medicine (see p. 239) show that the new symptom is attracting the attention it deserves. Although the spots were noticed many years before Koplik described them it is to his efforts that the present widespread interest in them is due and it is he who first made the claim that they are pathognomonic of measles; that they occur usually several days before any other typical symptom of the disease and are, therefore, of the greatest value in its early diagnosis. Moreover, Koplik's publications have aroused interest in the possibility, by the early recognition of these spots, of lessening the spread of measles by the immediate segregation of the children upon whom they are discovered, though they may have no other manifest symptom of the disease.

That these bluish-yellow spots with red areolæ on the mucous membrane of the cheek possess the diagnostic importance that is claimed is no longer open to question. At most of the children's clinics here in New York City, and at many throughout the country, this sign is constantly looked for and is confidently considered as pathognomonic. From many important children's clinics in Europe, notably at Berlin, Vienna, Prague and Heidelberg, confirmatory reports of the diagnostic value of the spots are published. At Prague the spots on the inside of the cheek have been seen as long as six days previous to the cutaneous eruption of the measles. They have never been seen in any other disease. Especially are they of value in making it possible to recognize measles when, owing to the circumstances of the case, scarlet fever may be suspected.

In this country the idea has been growing more and more prevalent of late years that German measles and ordinary measles are frequently confounded. We called attention not long ago to the fact that Professor Gerhardt of Berlin found among his students 15 per cent. of second attacks. Some claim that one of the two presumed attacks of measles is really an anomalous case of German measles. This is an important practical question since on it depends the freedom with which children who have presumably had one attack of measles may be exposed to the contagion again. The only feasible way to decide the question is to note carefully the occurrence of Koplik's spots. They have never been seen in German measles..

The *Baltimore Medical Journal* (February, 1900) has done some most commendable work in reproducing the colored plates originally presented in our issue of June 3, 1899, and publishing the replies of twenty prominent pediatrists of whom it had asked the personal estimate of Koplik's spots. The editor gives the following summary of these replies:

Of the 20 observers, 6 characterize the sign by the word "pathognomonic:" Hirsh, Libman, Lichtenstein, Ross, Sobel, Zahorsky.

The sign is diagnostic when present, according to 17 observers: Adriance, Blackader, Blanton, Cheney, de Saussure, Gilbert, Hirsh, Libman, Lichtenstein, Mitchell, Morse, Ross, Sobel, Taylor, West, Zabriskie, Zahorsky.

These three doubt its diagnostic value: Adams, Cameron, Cotton.

Absence of the spots excludes measles, according to 7 observers: Hirsh, Libman, Lichtenstein, Ross, Sobel, West, Zabriskie.

Absence of the sign does not exclude measles, 5 observers: Adams, Cameron, Cheney, Morse, Zahorsky.

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. The sign has been observed in advance of the eruption by 13: Adriance (20 cases out of 96), Blackader (in every case), Cheney ("frequently"), Gilbert, Hirsh, Libman, Lichtenstein (as early as 3 days before the eruption), Morse, Mitchell (48 hours before the eruption), Ross, Sobel (from a few hours to 5 days before the eruption), West, Zabriskie, Zahorsky.

ECHOES AND NEWS.

NEW YORK.

The State Hospitals.—A bill passed the Assembly February 9th appropriating $406,291 to reimburse the Maintenance of Salaries and Wages-Fund of the State hospitals and to purchase additional lands.

New York Hospital.—A poor woman was recently knocked down on Fifteenth street by a New York Hospital ambulance and killed. The children of the woman have begun suit against the hospital for damages.

Dr. Hammond.—The Neurological Society has passed resolutions appreciative of the estimate its members place upon the work of the late Dr. William H. Hammond and the services he rendered to neurology and psychiatry.

The Late Dr. Ketch.—At a recent stated meeting of the Medical Board of the Montefiore Home resolutions were passed expressive of the loss sustained by the Board in the death of Dr. Samuel Ketch and of the respect and esteem in which he was held.

Quarantine and Public Health.—The contest of authority between the State Quarantine and the City Board of Health, which occurred recently in reference to the coffee ships arriving from Brazil, has given rise to a bill which has been introduced into the Legislature designed to prevent such situations in the future.

Hospital for Deformed Children.—A bill was introduced in the Assembly at Albany on February 8th which provides for the establishment in or near New York City of a State hospital for the care of crippled and deformed children. Five managers, one of whom shall be a surgeon of experience in orthopedics, are to be in control.

American Red Cross Recruits.—A hospital corps composed of skilful physicians, nurses, and other attaches, has been organized in the United States for service in South Africa. The equipment, uniforms, tents, surgical instruments, and forty tons of medical supplies, have been secured. The expedition sailed from New York February 15th for the South African Republic.

Contagious Diseases.—For the week ending February 10, 1900: Measles, 859 cases and 39 deaths; diphtheria, 286 cases and 55 deaths; laryngeal diphtheria (croup), 23 cases and 12 deaths; scarlet fever, 257 cases and 23 deaths; chicken-pox, 36 cases; tuberculosis, 186 cases and 175 deaths; typhoid fever, 14 cases and 10 deaths; cerebrospinal meningitis, 5 deaths.

Animal Tuberculosis.—The Ways and Means Committee of the Assembly have reported favorably a bill providing for the inspection, by the State Commissioner of Agriculture, of stables where cattle and sheep are kept, and for the establishment of a code of sanitary rules. To him is also given the power to condemn and destroy animals afflicted with tuberculosis or other dangerous disease.

Collusion with Undertaker.—John W. Keller, Commissioner of Charities, suspended the night watchman at Bellevue Hospital and the driver of a Harlem Hospital ambulance on the specific charge that they were being paid by undertakers for tips on deaths that occurred. This information enabled undertakers to get the work of burying the body. One undertaker is reported as stating that the Bellevue trade alone was worth $50,000.

Flushing Hospital.—It may be necessary to close the doors of the Flushing Hospital. Under the present rate of payment made to the hospitals for public patients by the city the institution finds itself running heavily into debt. The city allows only 80 cents a day for surgical cases and 60 cents for medical cases. During January last the income from the city was $200, while the expense of maintaining the hospital was nearly $1000. The hospital has no fund to draw upon in case of a deficit.

Broken Neck Mended.—Some time ago we gave an account of a man, a hod-carrier, who fell from a building last October and broke his neck. He was first treated at his house by a physician, but was left with his right side paralyzed. In the early part of December he hobbled to St. Joseph's Hospital at Yonkers; a skiagraph showed that a cervical vertebra was fractured and pressure was being made upon the spinal cord. The treatment by extension was successful and the patient was discharged cured February 6th. He intends to resume his work as hod-carrier.

Obituary.—Dr. Abbie Hamlin MacIvor, wife of General James P. MacIvor, died February 8th, at her residence, 716 East 138th street. She graduated as a physician in 1886, and subsequently became an examiner in lunacy, medical examiner of teachers for the Board of Education, and a member of the County and State Medical Associations. In 1895 she was appointed a school inspector and in 1897 was elected chairman of the Board of School Trustees of the 23rd Ward. Besides her husband, she leaves a son, Dr. James Hamlin MacIvor, who practises in this city, and a daugher.

The Woman's Hospital.—The Forty-fourth annual report of the Woman's Hospital for the year ending September 30, 1899, has just been distributed. From this we learn that there were treated in the hospital during the year 865 patients. One hun-

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dred and ninety-nine patients were subjected to abdominal section, of whom 189 recovered and 10 died, a mortality of 5 per cent. Among the causes of death we find 6 of them assigned to shock. It would be interesting to know if the surgeons regard shock as the result of hemorrhage. The record of abdominal work is certainly a great improvement over former years.

Medicine in New York in 1800.—Dr. Sydney H. Carney, Jr., in a paper which he read at the last meeting of the New York Historical Society, stated that in 1800 there were ninety-four physicians in New York City. They "all used that staff of medical propriety, a gold-headed cane. Small clothes were rapidly disappearing and pantaloons were covering a multitude of shins." There were in 1800 five medical schools in the United States, *viz.*, at Columbia College, at Philadelphia, Cambridge, Dartmouth and Lexington, Ky. In 1798 sixteen doctors lost their lives in trying to mitigate the sufferings caused by the plague. The pay of doctors at Bellevue was then twenty shillings a day. This hospital was three miles out of town. For a visit the fee charged was $1, for a visit and a dose, $1.25. Pills were 12 cents. Doctors got $1 a mile for going out of town. It cost $3 to get one to Brooklyn and $10 to have one visit Staten Island. For bleeding a charge of from $1 to $5 was made.

The Insane in the State Asylums.—The annual report of the New York State Commission in Lunacy shows a decrease in the per capita cost of maintaining the insane during the last year, the rate falling from $185 per annum in 1898 to $178 in 1899. The net annual increase of cases was only 529, the smallest in five years. The total number of insane in the State institutions at the close of the year was 21,374. The total amount expended for maintenance was $3,875,323, and for new buildings and equipments and for extraordinary repairs $1,127,501. The total number of patients discharged recovered during the year was 1009, and 931 additional patients were discharged sufficiently improved to enable them to return to their friends. During the year the Commission succeeded in returning to other States and countries 168 insane persons who had either been shipped to the port of New York from foreign countries or had drifted within the borders of the State from Canada or surrounding States.

PHILADELPHIA.

Health Report.—Deaths in the city for the week ending February 10th were 531, an increase of 24 over last week and a decrease of 38 from the corresponding week of last year. Contagious diseases: Diphtheria, 126 cases, 23 deaths; scarlet fever, 94 cases; 7 deaths; typhoid fever, 56 cases, 6 deaths.

Examination Frauds.—The State Medical Board has completed its investigation of the alleged fraudulent obtaining of questions by recent candidates for license and a report will soon be made. Something of a sensation is looked for, although rumors as to the extent of the affair have been greatly exaggerated. The questions for further examinations by the Board will not be printed, thus diminishing the chances for leakage.

Physicians Inspect Colleges.—A number of physicians connected with the schools of medicine in New York, Boston, Chicago, and Baltimore, visited the city last week. In the party was President William R. Harper of the University of Chicago. The various medical colleges were inspected as to their facilities, methods of instruction, etc. During their stay Dr. H. A. Hare entertained the members of the party at luncheon.

Experimental Filter Plant.—Designs are under way for the experimental filter plant which is to precede the establishment of a general filtration of the city water supply. Officials have inspected plants at Lawrence, Mass., and Albany, N. Y., prior to drawing plans. Chemical tests will be made to determine the kind of sand best fitted to meet the conditions found in the waters of the Schuylkill and Delaware Rivers.

Laloo.—This Indian freak, who has a partially developed twin attached to his chest, is now in the city and rumor has it that he will undergo a surgical operation in the near future for the removal of the appendage. The subject is causing considerable interest in medical circles, as the case would be a unique one. There is a strong suspicion, however, that the report is a perennial advertising scheme. As the freak is genuine and well worth seeing the truth of this will not be so disappointing to the public as to the surgeons, who wish to study the case.

Baggage Disinfected.—The baggage of 238 steerage passengers of the "Switzerland," which arrived from Antwerp February 10th, was seized at the Reedy Island quarantine station and will be held until it is fumigated. This action was due to the fact that the captain was unable to produce a consular certificate that fumigation of the baggage had been carried out before the ship sailed. Although all the passengers were in good health in this instance, the quarantine officials are using every precaution to prevent disease-carrying ships gaining access to this port.

Jefferson College.—The trustees of this institution are preparing plans for the erection of a new hospital on the site of the old college building. The new structure will be 107 by 276 feet in size and will correspond architecturally with the splendid college building erected last year. The feasibility of providing double facilities for the instruction of class sections by having two clinics running simultaneously in each department is being considered. The completion of the new hospital will enable Jefferson to utilize to much better advantage the vast amount of clinical material which it possesses.

Movable Kidney.—Dr. John B. Deaver believes in but one operation for anchoring the kidney,

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i.e., the use of gauze without sutures. He has seen abscess of the kidney follow suturing of that organ, although clean surgery was done. Senn's method, with one or two modifications, is used. For scarifying the kidney a scalpel, instead of a needle, is used. The wound is repacked two or three times, this covering a period of about three weeks. The first packing is removed at the end of a week or ten days. The secondary packings are not inserted so deeply as the original one at the time of operation.

Pennsylvania Hospital Clinic.—Dr. J. M. Da Costa, while discussing uremia recently, called attention to the fact that urea may become locked up in the system and prevent recovery after a normal amount of urea is being excreted by the kidney. An interesting case, seen in consultation, was cited. Some time after a typical attack of uremia the amount of urea excreted by the patient went up to normal yet the patient did not get well, the stupor and curious delirium of uremia continuing. After some days the urine suddenly rose to 70 ounces per day and at the same time 1200 grains of urea were excreted. From that time the recovery of the patient was rapid.

Municipal Hospital.—Largely through the efforts of the Philadelphia County Medical Society this hospital is now accessible to the junior students of the various medical colleges of the city. Bedside demonstrations of contagious diseases, including scarlet fever, diphtheria, smallpox, leprosy, etc., are given to small sections by the chief physician, Dr. William Welch. Aseptic caps and gowns are worn by the students and every precaution taken to prevent infection and the dissemination of contagion. This new departure adds materially to the facilities of the city for medical teaching and students of medicine and the public are alike to be congratulated because of this action of the authorities.

CHICAGO.

Chicago Neurological Society.—At the annual meeting recently held, Dr. Henry M. Lyman was elected president, Dr. Hugh T. Patrick, vice-president, and Dr. Charles H. Lodor, secretary.

South Chicago Hospital.—A movement has been started to raise funds for the erection of a hospital at Calumet Heights. There is need of such an institution in that district.

Medical Societies' Joint Meeting.—At a joint meeting of the Chicago Society of Internal Medicine and the Chicago Medical Society, held January 31st, the subject of typhoid fever was discussed from various aspects.

Medical Examiners' Association.—The annual meeting was held January 30, 1900. The following officers were elected for the current year: President, Dr. Denslow Lewis; vice-president, Dr. W. K. Harrison; secretary, Dr. George F. Butler, and treasurer, Dr. J. Homer Coulter.

Ordinance for Examining Automobile Operators.—Health Commissioner Reynolds will require that operators of automobiles shall have good sight, sound hearing, and a sufficiently stable nervous system to enable them to exercise common sense under excitement, or in case of emergency.

Hospital for Consumptives.—The citizens, committee, having in charge the erection of a hospital for the treatment of consumptives, has received nearly $15,000 toward its erection. The committee is working for a fund of at least $25,000. The hospital will be constructed to care for three hundred patients.

St. Luke's Hospital.—February 16th an entertainment will be given at the Fine Arts Building for the benefit of this hospital. It is said, that, owing to its present limited income, this institution, to avoid a deficit, has been obliged for the last year or so to keep nearly sixty of its one hundred and seventy beds empty.

Passavant Memorial Hospital.—The proceeds of a recent entertainment given at the residence of Mrs. Potter Palmer were given to this hospital. This well-known charitable institution was founded prior to the great Chicago fire of 1871 through the earnest and tireless efforts of the late Rev. W. A. Passavant. At first its equipment was primitive, and its capacity limited to fifteen beds.

Relief Corps for Boer Army.—An ambulance corps under the direction of the American Red Cross Society left Chicago February 11th for South Africa to succor the wounded Boers. The expedition will be under the medical direction of Dr. John R. McNamara. The Chicago doctors who will go on this mission are Drs. T. M. Aderhold, A. F. Conroy, J. J. Slattery, Hubert H. McAuley, and Ross D. Long.

Vital Statistics.—There were 504 deaths during the week ended February 3rd, 22 less than for the corresponding week of 1899, but 18 more than for the week ended January 27th. Of the 504 deaths pneumonia was responsible for 113. For no week this winter has so great a number of deaths been reported from pneumonia, but the total is considerably below the "high week" of 1899. The medical school inspectors found it necessary to exclude from school only 291 pupils last week, as compared with 452 for the previous week. One of the inspectors sent home a marked case of chicken-pox, the patient being the son of a well-known physician.

Complications of Typhoid.—Dr. George W. Webster says that the most important complications in connection with the circulatory organs are endocarditis, pericarditis, myocarditis, arterial and venous thrombosis, embolism and hemorrhage. In the treatment of acute endocarditis, the most important factor is absolute rest, physical and mental, sufficient sleep, and reasonable freedom from pain. When the heart's action is becoming enfeebled,

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there is restlessness, some breathlessness, pain and anxiety, there is often a temptation to give digitalis. This should not be done because of its uselessness and danger. The same holds true with regard to myocarditis. Opium in some form, either morphine or heroin, is the most valuable drug in the treatment of acute endocarditis. The next in order of efficiency and value are sthychnine, oxygen, ammonia, caffeine, camphor hypodermically in sterilized olive oil. Nitroglycerin is useful in cases in which the blood pressure is too high.

Treatment of Typhoid.—Dr. Frank Billings, after referring to the bacillus typhosus as the cause of the disease, says that as flies are now known to be carriers of typhoid and other contagions, all food exposed to possible infection by these pests should be thoroughly cooked. After the discharge of the patient, the mattress, the blankets, etc., should be thoroughly aired in the rays of the sun and, if soiled, should be disinfected by steam heat. The bed should be washed with hot water and soap. The production of artificial immunity against typhoid fever as a prophylactic measure by inoculation with typhoid cultures, or with typhoid serum, has been practised on man and animals with apparent success. At present the specific treatment of the disease is on trial. The success, however, thus far obtained is sufficiently good to give hope of still better results. For the present we must continue the management which modern medicine has shown to give the best results. The form of the disease today in the large cities is milder than that of the first eight decades of the century. Fewer cases now present the typhoid states and severe intestinal symptoms. The mortality-rate must vary with the degree of severity of epidemics. The lessened rate of mortality is due partly to the present milder form of the disease. Mortality statistics based upon any form of drug treatment are misleading. The specific toxemia is the cause of the clinical phenomena, notably fever and the nervous symptoms. The condition of the urine in typhoid fever is a good expression of the toxic condition of the patient's blood. Good nursing is indispensable for the comfort and safety of the patient. As regards diet, the main principle is to select simple, easily digested food which will leave but little irritating residue in the bowel. The digestive power of the individual is diminished and improper food or overfeeding may result in local disturbance of the digestive organs as well as possible autointoxication. To carry a patient through this disease not only good nursing and a proper diet are essential, but it is necessary to mitigate the toxemia and to be constantly on the alert to meet the complications and accidents which may occur even in the mildest cases. The toxemia is best combated with hydrotherapy. Skin friction is as important as the application of cold. With friction a lower degree of cold may be applied. The cold pack, the cold effusion, and the cold sponge, when combined with proper friction of the skin, will be followed by much more beneficial results than if the bath alone is given with the idea of reducing temperature. Diluent drinks and colonic flushings with normal salt solution afford a more rational treatment by improved excretion than all the antipyretics and antiseptic drugs.

Typhoid in Private Practise.—Dr. William E. Quine discusses this subject under the following heads: Prevention, general management, diet, water, medicines, alcohol, antipyretic medicines, intestinal antisepsis, hydrotherapy. Theoretically the disease is preventable, and that without reference to antitoxin inoculations, but, in private practise especially and in hospital practise to a large extent also, the measures of prevention perfunctorily employed are often a mockery of science and an insult to the conscience of the profession. As to general management, the patient is to be kept, when practicable, in a well-lighted and well-ventilated room as far from the living rooms and as near to the toilet-room as possible; and the distinction between day and night is to be maintained throughout the entire course of the disease. A good trained nurse is an invaluable coadjutor. In severe cases, when the circumstances of the patient admit of it, two nurses should be employed, one for the night and one for the day. In any case the nurse should receive a reasonable allotment of time for sleep and for outdoor exercise. Milk is to be given to the extent of three pints in twenty-four hours, when it is the main support of the patient, or even more freely than this when it is well digested. Eggs are not as generally given in typhoid fever as they ought to be. The abundant internal use of water is essential to the good management of any case of typhoid fever. It promotes elimination, quiets delirium, subsultus and jactitation, and favors sleep. No intelligent physician will maintain that in ordinary cases of the affection the internal administration of medicines is an essential feature of good management. Alcohol, in quantities, sometimes that would actually imperil the life of a well man, is as irrational, reprehensible and disastrous, as is the indiscriminate use of the coal-tar antipyretics. The free and sustained use of the coal-tar derivatives undoubtedly increases the duration of the disease, including the number of relapses; and it increases liability to intestinal hemorrhage. The idea that typhoid fever can be aborted by the administration of antiseptics and purgatives is a vain dream. But it by no means follows that intestinal disinfection and drainage are either unscientific in theory or useless in practise. Any good effects produced by medicines of this class are apparently ascribable to the inhibition of putrefactive processes in the bowel and of secondary intoxications of the blood. Patients refuse the Brand method of treatment, hydrotherapy, again and again. While there can be no question as to the practical success of the method in hospital practise, its acceptability in private practise in America is certain to be of slow

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growth. Two persons are required to administer a bath to a very sick adult; and if the patients be uncommonly heavy and helpless and so sick as to require repetition of the baths every few hours, night and day for weeks, the services of four attendants will be required. The necessary service cannot be commanded in poor families. No person will be attracted to the treatment by seeing it administered. The laboriousness of it; the upheaval of the household it usually occasions; the appeals, protests, commands and pitiful attempts at resistance of the patient; the shudderings and cyanosis and pinched expression of misery while in the bath and the occasional recurrence of an involuntary discharge, together with the knowledge possessed by relative cases of typhoid fever *not* treated in this way which eventuated in easy recovery, oppose a formidable resistance to the general adoption of hydrotherapy in private practise which can be conquered only by the slow process of education.

GENERAL.

No Yellow Fever at Havana.—Havana, after experiencing the felicity of being absolutely free from yellow fever, is again afflicted. Eight cases were reported there February 14th.

Professor Von Bergmann Ill.—Among the numerous victims to pneumonia as a complication of *influenza*, which is now raging throughout Germany, is the celebrated surgeon, Professor Von Bergmann of Berlin.

Hospital Ship "Missouri."—The "Missouri" after an exceedingly rough passage from Nagasaki, has arrived at Honolulu. The "Missouri" had 277 sick and wounded soldiers on board when she started from Manila, during the trip 16 died. She is en route for San Francisco.

Famine Spreads in India.—It was reported from Bombay on February 7th that the famine has rapidly become worse. Already 4,000,000 persons are receiving relief and a steady increase in the number is to be expected. Deaths from starvation are becoming frequent.

Hospital Ship "Maine."—Lady Randolph Churchill reports that the hospital ship "Maine" has carried its first load of sick and wounded from Durban to the hospitals at Cape Town. There were 140 patients on board; among these were 69 wounded and many cases of rheumatism and fever.

Smallpox through Kissing.—Charles Frank of Carpenter, Ia., during a kissing-game at a church sociable, kissed three young women. Shortly after Frank became ill with smallpox and then the three young women became afflicted with the same disease. Eight cases have resulted in all and one death occurred.

Typhus in Mexico.—The Marine Hospital Service reports that an epidemic of typhus fever is raging in the little town of Santa Maria, Mexico. The population of the village is not over 400. Previous to January 26th there had been reported 24 cases and since then a sufficient number to make a total of 60 cases.

A Change in Date.—The meeting of the American Medico-Psychological Association in Richmond, Va., will be held May 8, 9, 10, 11, and not on May 1, 2, 3, 4, as heretofore announced. The change in date is made to enable members to attend the Congress of American Physicians and Surgeons in Washington, May 1-4.

Skin-Grafting Suit.—Injuries to Miss Susie Kelly of North Adams, Mass., necessitated a skin-grafting operation, which was done by Dr. M. M. Brown, Miss Rose Murphy permitting Dr. Brown to take from her skin the necessary grafts. After the operation Miss Murphy sued Dr. Brown for taking more skin from her body than she authorized him to take. The Court decided in Dr. Brown's favor.

Leprosy in America.—Father L. W. Mulhane, who has done much for the lepers in the United States, has been studying the leprosy problem in Cuba. Father Mulhane considers that leprosy is increasing in Cuba and in the United States, and that it is likely to become formidable in this country by introduction from our new colonial possessions unless the Government takes steps to establish a home where the lepers can be kept isolated from the rest of the community. He believes that there are now 5000 lepers in the United States.

Disease Germs in Books.—The Scranton (Penn.) Public Library was closed during the two weeks ending February 10th, by order of the Board of Health of that city. It was feared that diphtheria and scarlet fever, which are epidemic in Scranton, were being spread by the circulation of the books. The directors asked that a daily list of contagious cases be furnished them so that they could refuse books to those with sickness in their families. The Board of Health refused, saying that the negligence of physicians has left them in ignorance of most of the cases of contagious diseases.

Resignation of Dr. Wortman.—Dr. J. L. Wortman resigned the curatorship of the Department of Vertebrates at the Carnegie Museum in Pittsburg on February 6th. The cause was a disagreement with the Rev. Dr. W. J. Holland, curator of the museum. One of the gentlemen maintained that certain bones dug from the fossil beds of Wyoming were those of the Brontosaurus, while the other insisted they belonged to the Dipsodocus Magnificus. This recalls the "Row upon the Stanislaus," which Bret Harte's verses have made memorable. Dr. Wortman has returned to his old place in the laboratory at Yale.

Book and Paper Distribution.—The twenty-fifth annual report of the Hospital Book and Newspaper Society shows that during its last fiscal year there were distributed by it 5812 books, 26,777 magazines, 71,140 weekly and illustrated papers, and more than 200,000 daily newspapers. More

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than a dozen women, working two or three mornings in a week, are scarcely sufficient to distribute this material weekly to the society's beneficiaries which number over two hundred, and which include city institutions under the Charities and Correction Departments, hospitals, prisons, schools, lodging-houses, light-houses, life-saving stations, libraries in mining districts, the Army and Navy, and such people as live in remote places where there are no other facilities for obtaining reading matter.

Aseptic Vaccination.—The wide-spread foci of invasion of smallpox which exist at the present time throughout a large portion of the country necessitate an unusual amount of vaccination. It is fortunate that there is at the present time the most approved form of virus that has ever been produced in the form of glycerinated vaccine. In the use of it some modification of the old method of vaccination must be adopted. There are certain steps that should be taken and certain errors that must be avoided. These perhaps are best summed up in the form of a few "dont's" for the operator, as follows: (1) Don't prepare the site by washing with antiseptic solutions, but scrub the arm thoroughly with soap, brush and hot water, and dry with a clean towel. (2) Don't draw blood if you can help it. A gentle oozing of serum gives a much better result. (3) Don't fail to rub the vaccine thoroughly and persistently into the abrasion. (4) Don't replace the clothing until the vaccine is thoroughly dry. (5) Don't apply antiseptic dressings. By following these instructions there should not be more than one or two failures in a hundred.

Pneumonia That Only Threatens.—Under this heading Dr. George Dunsmore of St. Albans, Vt., in the *Med. Times,* takes his professional brethren to task for ignoring or cultivating the impression that such a disease exists. After narrating the story of the students, who thought to trap the professor of entomology by presenting him for classification several bugs that they had previously disemboweled, disarticulated, and reconstructed from the remains, and were informed after careful scrutiny that the specimen was a *humbug,* declares that he is very much afraid that the bug of the disease above mentioned is a similar specimen. Pneumonia, like a club, can leave no mark until it strikes and cannot strike so long as it only threatens to strike. Within a year a woman said to him, "You cannot imagine what a narrow escape I had from pneumonia. The doctor said he never saw any one come so near having it and not have it." On another occasion a patient remarked, "The doctor said I was threatened with pneumonia, and made me three visits that day; but I was only threatened with it." Query—If a threat requires three visits a day, how many would the reality need?

The "Mississippi Valley" Transactions.—The Missisippi Valley Medical Association at its last meeting, the twenty-fifth annual session, decided to preserve its transactions by publishing them in book form. The first volume, which is a compilation of the proceedings of the meeting held at Chicago, October 3, 4, 5, 6, 1899, is just at hand. In this we learn from a brief historical sketch that the society was organized in 1875 under the name of the Tristate Medical Society—the members were residents of the States of Indiana, Kentuck and Illinois. In 1883 it was found that physicians from many other States had become members, and it was decided to enlarge the sphere of the society. The name was accordingly changed to the Mississippi Valley Medical Association. At the present time the membership is really national in its scope. The present volume is a large octavo, printed in clear type, and the material is well arranged. The excellence of the papers insures for the society a place among the foremost medical associations in the country. The appearance of the volume certainly does credit to its compilers, except, perhaps, the color of the binding, which is unfortunate.

Medical War News.—Almost the only subject of interest and conversation in medical circles, as in all others in London is the war. Not a week passes but from one to a dozen members of the profession are announced as going to the front in one capacity or another. Nor is it merely surgeons and general practitioners who are volunteering, the specialists have caught the infection as well. Mr. L. Vernan Caryill of Kings College Hospital, a well-known ophthalmic surgeon on the teaching-staff of the Medical Graduates' College and Polyclinic, and Mr. L. N. Pedley, lecturer upon dental and oral surgery at Guy's Hospital, are both going out in connection with the Imperial Yeomanry Hospital. So many cases of bullet-wounds of the face and jaws have already been reported that the special skill of both these gentlemen will be most welcome and find abundance of useful occupation at the Cape. No less than twenty surgeons and forty nurses are going out on the staff of this hospital. Since the distressing reverses and blunders of the past few weeks, the English press is more and more forcibly calling attention to the fact that the one department of the army in which blood and social position cut no figure, but which is open to all who can win on their merits, the Army Medical Corps, has scored the one success of this campaign. Men, who until the most recent date were hardly recognized as "gentlemen" by the haughty combatant, and are still treated with the scantest courtesy by the War Office, have carried out their war-work with brilliant success to a chorus of universal praise. While the efforts of their social "superiors" have resulted in blunder after blunder, culminating in serious disaster relieved only by the bravery and determination with which it has been faced. And the contrast is keenly appreciated by the English people. The only redeeming feature of the campaign so far have been the steady bravery of the fighting-line and the splendid manner in which relief has been afforded to the victims of the generals' blunders.

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The latest instance of the gross stupidity and hereditary genius for blundering of British officialdom has just been furnished by the attitude of the War Office in respect to the accommodation of soldiers invalided home. Months ago offers began to pour in upon them of beds here, wards there, entire homes or hotels elsewhere, but it has now been discovered that to the majority of these generous offers no definite reply has yet been sent and in some cases not even a letter of thanks for the offer, the official excuse being that they are doubtful as to the possibility of maintaining due military discipline in such scattered institutions! At the same time the Government Homes and Hospitals are confessedly utterly inadequate and the War Office is muddling about attempting to secure beds in the already sadly overcrowded London hospitals. One offer to build a home capable of accommodating 150 men close to the Herbert Hospital at Woolwich was not even vouchsafed the courtesy of a reply and has naturally been withdrawn. At least two-thirds of the estimated 3500 beds required have been offered by private generosity; 2000 casualties occurred at the front last week alone, and yet the wise men of the War Board cannot overcome their scruples as to the sacred preservation of discipline and accept the noble gift before their own limited accommodations are hopelessly overcrowded.

CORRESPONDENCE.

THE TREATMENT OF ANEURISM BY GALVANISM THROUGH INTRODUCED WIRE.

To the Editor of the MEDICAL NEWS:

DEAR SIR:—Concerning the application of the galvanic current for its electrolytic effect on the circulating blood in the treatment of aneurism, and your kind reference in a recent issue to my pioneer work with the method, I desire to ask for space to note that one of the important facts so demonstrated is that not a *mild* (as you have stated) but a *strong* current (through the anode) may be employed with absolute safety and benefit. In respect to this in my first paper on the subject (*American Journal of the Medical Sciences,* Oct., 1892), in speaking of the inutility of mere galvanopuncture in the treatment of aneurism and of the immense superiority of the method I described, I remarked that galvanopuncture practised as advocated in text-books on electricity is useless indeed—such as a current of but 20 to 30 milliamperes, and this applied for only a few minutes. I said that "the interpolar resistance is so great with one electrode externally that an electrolytic action to any purpose necessitates a current strength and the duration of its application much in excess of this." I remarked that "fifty milliamperes are none to great nor an hour's session too long, if permanent results are to be hoped for;" that "no greater risk attends the application of a strong current and a long session provided the needles are properly insulated."

The current's strength and the duration of its passage (through the introduced coiled wire) in the cases operated on by me and in those I supervised were as follows: Case I, thoracico-abdominal aortic aneurism, 70 milliamperes for 1 hour; Case II, innominate aneurism, 80 milliamperes for 1/4 hours; Case III, innominate aneurism, upward of 70 milliamperes for 65 minutes; Case IV, abdominal aortic aneurism, 50 milliamperes for 30 minutes; Case V, thoracic aortic aneurism, 80 milliamperes for 1 hour; Case VI, abdominal aortic aneurism, 65 milliamperes for 57 minutes; Case VII, thoracic aortic aneurism, upward of 70 milliamperes for 1 hour; Case VIII, thoracic aortic aneurism, operated upon on three separate occasions, (1) upward of 80 milliamperes for 1 hour; (2) 100 milliamperes for 77 minutes; (3) 100 milliamperes for 75 minutes.

In my later papers on this subject (*British Medical Journal,* Aug. 14, 1897, and *Philadelphia Medical Journal,* Nov. 12, 1898) I have especially emphasize the fact that my experience has shown that to obtain the best results the current's strength must be high and the session long, and that "by the application of a strong galvanic current through coils of wire, so disposed that all areas of the sac are reached, it follows without exception, as has been noted in all recorded cases, that consolidation by virtue of clot-formation is promptly and invariably produced. The solidification is rapid and is generally manifest before the end of the electrical session, through changes apparent to the eye and the hand, in the pulsation and in the degree of consistence of the sac-wall. These changes become more decided in the course of a few days, until, after a time, in the most favorable cases a hard nodule, with a communicated pulsation only, replaces the previous expansible tumor."

D. D. Stewart, M.D.

1429 Walnut street, Philadelphia,
February 1, 1900.

ARE ACQUIRED CHARACTERISTICS HEREDITARY?

To the Editor of the MEDICAL NEWS:

DEAR SIR:—My excuse for troubling you with this letter is that the subject of it constitutes one of the most important questions of the present day.

The *Journal of the American Medical Association* for November 18, 1899, contains an editorial entitled the "Transmission of Acquired Characters," which is, in reality, a criticism of a paper read by an English physician, Mr. Archdall Reid, at the last meeting of the British Medical Association. This gentleman said that, "though the whole plant and animal kingdoms have been ransacked, no single instance of the transmission of an acquired character has yet been proved" to which the erudite editorial writer answers by asking, "Is he (Mr. Reid), as

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it seems he must be, ignorant of the testimony of Brown-Séquard, Westphal, Romanes and others when he makes this statement?" The ignorance is elsewhere; Mr. Reid, with whom I am not personally acquainted, and who is well able to take care of himself, has written a book called "The Present Evolution of Man," a perusal of which would demontsrate his familiarity with the whole of the evidence.

Nobody outside the medical profession any longer attaches any importance to Brown-Séquard's investigations, "concerning which recent experiment and inquiry have raised considerable doubt." The quotation is from a letter by Professor Ray Lankester, published in the *Lancet* of March 6, 1897, page 696. As, however, he has not the advantage of being a member of the medical profession, his opinion will, I fear, carry no weight among physicians. It is useless, therefore, for me to mention the experiments to which he refers. Westphal was one of Brown-Séquard's assistants who produced what he was pleased to call "epilepsy" in guinea-pigs without any incision, by striking the heads of the animals with a hammer. It seems somewhat remarkable that this kind of "epilepsy" is not transmitted when other persons try this experiment. As to Romanes, a reference to page 154 of Vol. II. of "Darwin and After Darwin" (published in 1897) will show that he was very far from being convinced that acquired characters are transmitted. "In the present state of our information," he writes, "this judgment" (that acquired characteristics are hereditary) "must be deemed provisional, or liable eventually to be overturned by experimental proof of the non-inheritance of acquired characters." (Mr. Romanes died in 1894, so that it is impossible to communicate with him as to any change in his opinion after the publication of his book.)

The writer of the editorial in the *Journal of the American Medical Association* attaches much importance to Talbot's cases of Jewish boys being born already circumcised, probably because the facts are supplied by a physician. But this evidence is open to two serious objections: (1) How is it that only two per cent. of the boys examined by Dr. Wolf "were born partially circumcised" and "only six per cent. were born with a short prepuce?" ("Degeneration," by Eugene S. Talbot, p. 47). Surely, if acquired modifications are *usually* transmitted, at least sixty per cent. of Jewish boys ought to come into the world without a foreskin. (2) No careful enquiry seems to have been made in order to ascertain how many non-Jewish boys are found with a congenital absence of the foreskin.

I do not hold a brief for Weismann, and in my humble opinion many of his hypotheses are untenable. Indeed, they belong to the region of metaphysics, and are altogether outside the range of science. I cannot understand, however, in what way this admission injures the neo-Darwinian contention that, *as a rule*, acquired modifications are not transmitted. Neo-Darwinians do not assert that they never are and never can be; they leave that pleasure to the Weismannians. Almost all that we know about heredity has been learned from investigators outside the medical world; pathology is not a safe guide in questions of general biology, because diatheses play so important a part in cases of disease. An example of an easily explained error may be found in the assertion of the late Sir William Roberts (Allbutt's System of Medicine, Vol. III., page 181) that "the history of gout supplies some important instances of the possibility, so much debated among biologists, of the hereditary transmission of acquired characters."

The author of the editorial in the *Journal of American Medical Association* is evidently ignorant of what, for want of a better name, I have called "pseudoheredity,"[1] and he still writes, I suppose, of "hereditary" syphilis and not of "congenital" syphilis. The latter part of the editorial leads me to think that some medical men have not the vaguest idea of what the word "heredity" means even in pathology. It is neither the transmission of identical disorders nor of symptoms, but the passing-on from one generation to another of "organic dispositions" —(Morel).

When a host, upon which a parasite is living, undergoes starvation, the parasite often suffers. Likewise, when a pregnant woman indulges in alcoholic drinks to excess, the infant at birth and afterward, may show the results of its mother's depravity; but in neither case is there anything of the nature of true heredity, as I understand the facts. Both cases are examples of pseudo-heredity. It is possible, I imagine, that the milk of an alcoholic woman may contain alcohol, and that her infant, by the consumption of it may, at an early age, acquire a taste for liquor in this way. But this hypothesis has no suggestion of heredity about it.

In recent volumes of the Proceedings of the English Royal Society may be found accounts of a number of interesting experiments made by Mr. Walter Heape. He has succeeded in transferring fertilized ova from rabbits of one breed to rabbits of another. If the foster-mother has in any way influenced the progeny, nobody has discovered it. This evidence is unfavorable to the neo-Lamarckian hypothesis that acquired characters are transmitted, but it is by no means conclusive.

I must apologize for the length of this communication, and must explain that Mr. Reid lives in England and is not likely to see the fallacious editorial in the *Journal of the American Medical Association* in time to reply. Moreover, if there is one question which demands the attention of scientific men more than any other, it is the question which I have written at the head of this letter.

Lawrence Irwell, M.A., B.C.L.

344 Hudson street, Buffalo, N. Y.

[1] Dietetic and Hygienic Gazette (New York), p. 12, January, 1898.

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OUR LONDON LETTER.

[From Our Special Correspondent.]

LONDON, February 3, 1900.

ENLARGEMENT OF THE YEOMANRY HOSPITAL—PRAISE FOR MR. TREVES—BRAVERY OF MEDICAL OFFICERS—LARGE BEQUESTS TO LONDON HOSPITALS—A DOCTOR'S REMINISCENCES—"FERTILIZER" PURCHASED FOR HUMAN FOOD.

So generous has been the popular response to funds for this, the latest of the war-hospitals, that the Committee announces its intention of equipping a branch field-hospital as well. The original plan of a base-hospital at Wynberg with 500 beds has already received sufficient promise of support to ensure its complete and rapid realization. The Yeomanry is a specially favorite corps with the British public, as it represents almost the first active participation in the war of the great middle-classes of society. So far the rank and file of the army have been drawn almost exclusively from the "lower" or working classes and the officers from "society" and clubland, leaving the real backbone-class of the country almost unrepresented. This defect is, however, being rapidly amended as the need of the country and seriousness of the situation becomes more clearly appreciated.

Several of the war-correspondents at the front speak in their letters in terms of highest admiration of the skill and success of Mr. Treves as an operator. He is devoting himself chiefly to abdominal operations, for which his well-known brilliant research studies and exceptional surgical experience have specially qualified him, and his successes are attracting wide attention. The reports dwell specially upon the resources shown in organizing his operations and adapting himself to circumstances and the marvelous rapidity with which one difficult and delicate operation after another is carried through without a single hitch when working under the fearful pressure of the flood of wounded upon the field of battle itself.

One result of the enormous increase in the range of modern rifles has been a serious one for army surgeons. So tremendously has the width of the "zone of fire" been increased that the surgeon must practically be almost as continually under fire as the fighting-line itself and, what is worse, carry out all his first dressings and emergency operations with the knowledge that at any moment another bullet may either render his ministrations unnecessary or put an abrupt stop to them. This would hardly seem conducive to cool judgment and precise bandaging, but Sir Wm. MacCormac especially praises the skill and efficiency with which the dressings of the wounded brought into the field-hospital had been applied, for the most part under a perfect hail of bullets. The first sign of hesitation on the part of medical officers to go wherever their services are required has yet to be recorded and many of them have received special mention for conspicuous bravery in the discharge of their errand of mercy. Among these is Surgeon-Major Babtie, who, after the annihilation of Long's battery in its reckless charge to the front, rode not merely up to the firing line but far in advance of it, across a belt which had been literally swept clear of every living thing by the storm of bullets, to reach a gully into which the survivors of the battery, including poor young Lieutenant Roberts, son of the Commander-in-Chief, had dragged themselves for shelter. His horse was killed under him, but he himself escaped in some marvelous manner and for seven hours was in sole charge of a score or more of wounded men, lying under a blazing African sun and without water, save that contained in his own bottle, which he doled out in dram doses.

One of the most generous gifts ever made to English hospitals is that conveyed by the will of the late Professor Hughes, whose death occurred in London last week. This distinguished scientist, the inventor of the microphone and of the printing telegraph-machine, both of which brought him in large royalties so that his income was estimated at $200,000 a year, left the whole of his large estate, aggregating two and a half million dollars, to the charitable and educational institutions of London. Hospitals came in for the lion's share, four of these receiving no less than $400,000 each. These four are Kings College Hospital, the Middlesex Hospital, and two others whose names are withheld. The money, however, is not to be paid until twenty years after the death of Mrs. Hughes. The testator was at one time professor of music and of scientific subjects in a little denominational college at Bardstown, Kentucky, and most of his inventions were made in America, although he was born in England.

Much interest is aroused in the profession by the announcement that Sir Joseph Fayrer is preparing a volume of "Reminiscences" which Blackwoods will publish in the spring. Apart from his brilliant services to medicine and all the picturesque associations of a lifetime in India, Sir Joseph has had a most varied and even adventurous career. He began his Indian service, for instance, by being shut up in Lucknow, through the whole of the celebrated siege and shared in the transports of the "relief," which has passed into song and story, while a large part of his life has been occupied with campaigns against cholera, plague and famine. If the book is not a success it will not be for lack of abundance of stirring episode and a great personality behind it.

A most extraordinary case of attempted sale of decayed food has just been before the police-courts here. In the cellar of a provision dealer a large number of "blown," bulging and otherwise spoiled cans of preserved meat, vegetables and fruits were discovered. Their owner alleged that he was "only going to pick them over" and sell what were unspoiled. Upon inquiry, however, it was discovered that the entire lot of 650 tins had been bought of a dealer as rubbish for

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fertilizing purposes! The price paid for the collection was $5, and the dealer had not the slightest suspicion that any of them were to be sold to be used for human food. The defendant was sentenced to three months imprisonment with hard labor, the magistrate remarking that the thought of such depraved greed made him shudder.

TRANSACTIONS OF FOREIGN SOCIETIES.

British.

RUPTURE OF THE UTERUS—ALBUMINURIA OF PREGNANCY—OPERATION FOR TUBERCULOSIS OF THE SEMINAL VESICLES—PAROXYSMAL HEMOGLOBINURIA IN A CHILD—RECURRENT MALIGNANT TUMOR OF THYROID GLAND—ANKYLOSIS OF JAW CURED BY RESECTION—COMPLETE MASTOID OPERATION FOR CHRONIC PURULENT OTORRHEA—ON THE TRAUMATIC PRODUCTION OF CANCER.

H. SPENCER read a paper on rupture of the uterus before the Obstetrical Society of London January 3rd. In four cases he packed the rent with iodoform gauze introduced through the vagina. All of these patients recovered. Eight others whom he had treated by other methods died, either in a few hours from shock and hemorrhage or in a few days from sepsis. He expressed his views as follows: (1) Abdominal section is rarely required, and then only in cases in which the fetus has passed wholly or in great part into the peritoneal cavity. It should be performed rapidly under local infiltration anesthesia, and should be followed by flushing of the peritoneal cavity with normal salt solution and by suture of the tear, if possible; or, if this be not possible, by packing the tear with iodoform gauze and draining by the vagina or abdomen. (2) Abdominal hysterectomy is hardly ever necessary. When the broad ligaments are so much damaged as to endanger the vitality of the uterus, vaginal hysterectomy should be performed. (3) All incomplete tears implicating the broad ligament and almost all complete tears should be treated by packing the rupture per vagina after removing clots and fluid blood.

P. HORROCKS also reported cases in his own practise in which this method of treatment had been successful, but the success was to be attributed to the aseptic conditions under which labor had been carried out, no less than to the gauze packing. If a patient cannot be treated in this manner, the abdomen should be opened and the tear in the uterus sewed up with silk.

HERMAN advocated vaginal hysterectomy if the rupture cannot be satisfactorily treated by gauze packing. Partial suture of a uterine tear is worse than useless. The suture should be perfect or not attempted at all.

At the Edinburgh Obstetrical Society, January 10th, J. RITCHIE read a paper on albuminuria of pregnancy. Even if the amount of urine be small and not accompanied by any signs of organic renal disease, the nutrition of the child is often gravely affected. In such conditions two dangers exist, *viz.*, danger to the mother from eclampsia and danger to the child from malnutrition. For eclampsia three conditions are requisite: (1) A certain quality of the nervous system; (2) a toxemia, and (3) some peripheral irritation. Treatment, therefore, should reduce the amount of nitrogenous food, limit the production of toxic matter, and favor elimination. Rest in bed, moderate purgation, diuresis by means that do not increase arterial tension, and limited feeding seem to be the main points to be observed.

At the Medical Society, January 8th, M. MOULLIN reported two cases in which he had removed tubercular seminal vesicles through a transverse perineal incision. The disease had extended upward from the epididymis, so that the testis and cord were first removed by a scroto-inguinal incision, the cord being divided as high up as possible. The patient was then placed in the lithotomy position and the seminal vesicles and ejaculatory ducts were dissected out. There was very little bleeding. The sphincter was stitched to the centrum tendineum and the wound stuffed with iodoform gauze. Both patients recovered promptly, although one was troubled for some months by a small urinary fistula, due to the fact that the ejaculatory duct was torn out of the urethra. Moullin strongly advocated this complete operation in every case of tuberculous epididymitis in which the seminal vesicles can be distinctly felt through the rectum.

At the Clinical Society of London, January 12th, LUNN spoke of paroxysmal hemoglobinuria in children and presented a patient, aged six, the tenth of twenty-four children in whom the peculiarity was noticed when one year of age. From time to time she passed port-wine urine containing red blood-cells. She usually had a chill and collapse when an attack was imminent, but in the intervals her health wos good.

VOELKER commented on the fact that in a large proportion of these cases there is a definite history of syphilis. On examining the blood he had noticed an unusual tendency of the corpuscles to cohere, so that they formed snake-like coils, and the corpuscles themselves were elongated.

C. SYMONDS showed a patient who had had malignant disease of the thyroid and on whom he had twice operated. The interesting points were that the disease remained localized in the left lobe, and the long duration of the tumor—eleven years.

A. BARKER said that malignant tumors of the thyroid often run a chronic course, one in his own practise lasting eighteen years.

J. CLARKE showed a girl eighteen years of age, whose jaw he freed by removal of the neck of the bone on the right side. Ankylosis had been complete for three years. The patient rapidly gained flesh and was able to open the paw for an inch and to close it perfectly.

At the Royal Medical and Chirurgical Society, January 23rd, C. A. BALDWIN spoke of the mas-

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toid operation for the cure of chronic purulent otorrhea. He pointed out that the selection of cases for the complete mastoid operation is surrounded with difficulty, and that large experience rather than rigid observance of any rule is the best safeguard against the risk of delay, on the one hand, and the performance of an unnecessary operation on the other. The cure of chronic otorrhea cannot be effected by simply opening the antrum. The complete mastoid operation which involves damage to the tympanic structures is inapplicable to acute cases. Intractable chronic otorrhea should be treated by two operations: (1) The operation for the removal of the disease, *i.e.*, the complete mastoid operation, and (2) the operation for the healing of the wound, *i.e.*, by the epithelial grafting of the raw bone cavity.

At the Pathological Society of London, January 16th, T. G. STEVENS gave an account of the bacterial examination of a thrombosed ovarian vein following hysterectomy, the patient having died from subacute septicemia. The right ovarian vein was found to be thrombosed from the ligature to the vena cava. Cultures made from it showed colonies of the bacillus coli communis and the bacillus pyocyaneus.

W. PAKES found the bacillus proteus vulgaris in a clot in the left iliac vein of a patient dying from phthisis and tuberculous enteritis.

S. G. SHATTOCK exhibited a specimen of "spontaneous" carcinoma of the uterus of a rabbit. The growth was of a papillomatous type and, besides many uterine foci, there were peritoneal nodules. Histologically it was columnar-celled carcinoma. The interest in the specimen was due to its bearing on the conclusions stated in a paper by L. Lack, who exposed and scraped the ovaries of a rabbit and then closed the abdominal wound. Twelve months later the animal showed signs of abdominal carcinoma and was killed. Carcinomatous nodules were found throughout the peritoneal cavity and in the lungs. The conclusion drawn at that time was that the carcinoma was due to scraping the ovaries, but Shattock's case showed that similar carcinomatous nodules may arise spontaneously and that, unless Lack's result can again be obtained, it must be looked upon as a coincidence. The dissemination of peritoneal papillomata after rupture of a papillomatous ovarian cyst is not a safe comparison, since normal characters cannot safely be ascribed to such epithelium. When the case of normal epithelium is considered, such experiments as have been made seem to oppose the hypothesis that carcinoma can be caused by the mechanical introduction of normal epithelium into the lymph spaces. The intravascular injection of gland emulsions by Lubarsch and his pupils was in no case followed by the growth of tumors. Neither did tumor formation follow the traumatic detachment of tissue whether the fragments remained *in situ* or were transplanted to another animal of the same species.

C. A. BALLANCE said that it is now generally recognized that the action of normal epithelial cells when transplanted into other tissues or lymph-spaces is limited. Normal cells when so transplanted have only a certain power of development, but when malignant their power is unlimited. What is this power of malignancy? Lack's experiment does not settle the question, but in the Graafian follicle there is something quite special, for if these epithelial cells come into contact with (become infected by) certain other cells, the spermatozoa, they at once take on that most remarkable power of growth which results in the development of the fetus. Lack's experiment to be of value must be repeated many times. He himself had many times thought that he had discovered a law, when further experimentation showed him that it was only a coincidence which he had hastily assumed to be a law.

SOCIETY PROCEEDINGS.

NEW YORK ACADEMY OF MEDICINE.—SECTION ON MEDICINE.

Stated Meeting, Held January 16, 1900.

John H. Huddleston, M.D., Chairman.

Plague Bacillus.—Dr. W. H. Parks demonstrated, as noted in a previous number of the MEDICAL NEWS (page 104) the bacillus of the plague. His specimens had been isolated from the cases recently brought to New York from Santos, in Brazil.

Dr. F. S. Fielder read a paper entitled "A Criticism of a New Method of Preparing the Skin for Vaccination by Denudation with Caustic Potash Solution."

Technic of Vaccination.—In discussing Dr. Fielder's paper Dr. Morris said that the sentimental objections of the pain and flow of blood caused by the old method of inoculating vaccine were really not deserving of the consideration which seem to have been given them in the effort to invent a new method by the use of caustic potish. The pain is really very insignificant. It is possible to vaccinate a sleeping babe without waking it. Even highly neurotic children when a little care is exercised give very few signs of pain. It is scarcely necessary to have more than a show of blood and the vaccination will take very well. The use of caustic potash will almost surely leave a scar whether the vaccination takes or not. In the case of unsuccessful inoculation this may easily prove a source of error later on and the patient thus be subjected to the danger of taking smallpox at a time when he is thought to be protected. There is no such thing as a characteristic scar of vaccination. Any physician who has had to examine many arms knows this very well. The bite of a dog, or a knife in the hands of a careless boy, may easily produce a scar that will be taken even by an expert for a vaccination-mark unless he knows the history. It is very dif-

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ferent now to the state of affairs that existed when human virus was used. Then the portion of scab was inserted beneath the skin with a lancet and a rather deep scar was the result. Any one who as a boy has with a little sand produced "fox bites" on himself or others must know how easy it is to produce a scar that will resemble very much the vaccine mark left after the modern method of vaccinating.

Success of the Present Method.—The number of failures by the newly suggested method of vaccination is entirely too high. Good virus under the old method will give nearly one hundred per cent. of successful vaccinations. In about 1500 vaccinations during this last year the percentage of successful cases has been more than 95. Nearly all of the failures occurred in obstinate colored children who refused to be vaccinated and who by means of spittle and rubbing with their clothing endeavored to remove the vaccine virus as soon as the doctor's eye was turned away. Without these cases the percentage of successes would be nearly 100. By present methods there is very little danger of secondary infection. In the old days erysipelas sometimes occurred during the summer time so that it was the custom to advise vaccination during the colder months unless there was an epidemic. This rule would seem to be a good one still, although now, taking arms just as they come and without any preliminary cleansing, it is extremely rare to have any complications. In one case in which every precaution of the most extreme surgical cleanliness was taken, because the parents were very much opposed to vaccination, the child nevertheless developed a rather serious "bad arm," with swelling to the wrist and a condition that reminded one of cellulitis. Despite threatening and disquieting symptoms it recovered completely without surgical interference.

Practical Point in Vaccination.—Dr. William H. Park said that with the virus issued by the Board of Health at present it is very advisable to make only a small denudation. Over and over again where complaints have been made of the severity of the sore caused by the Board of Health's virus it has been found that the doctor neglected to read the directions issued by the Board of Health and denuded a large space, the size of a penny or more, as it was the custom to do before the present concentrated virus was used. The result in such cases was, of course, a large ugly sore that takes a long time to heal. As to the swelling which takes place after vaccination in certain cases an idiosyncrasy of the individual seems to have a good deal to do with it. Dr. Park himself was vaccinated while an intern at the Roosevelt Hospital. The arm swelled up from the region of the clavicle and scapula all the way down to the ends of the fingers. One of the surgeons pronounced it cellulitis and wished to incise it. This was not permitted, however, and the arm became entirely well without any other treatment than evaporating lotions.

Justus Blood Test for Syphilis.—Dr. D. H. Jones read a paper on the test for syphilis introduced by Justus in an article in *Virchow's Archives* in 1895. The test consists in noting the susceptibility of the red blood-cells to the action of mercury. If the patient is suffering from active syphilis a mercurial inunction or a subcutaneous injection of mercury is followed by a distinct diminution in the hemoglobin value of the blood. This diminution of hemoglobin seems to be due to the fact that a number of red blood-cells are destroyed by the mercury. Justus has tried it now in some 300 cases and it has been positive in every case of active syphilis while it has been absent in a large number of controlled cases. Dr. Cabot of Boston tried the test in some twenty cases and made a confirmatory report as to its value. The hemoglobin was found to be reduced by a single inunction from 10 to 20 per cent. Dr. Jones tried the test in 53 cases; 35 of them had a history of syphilis and 18 were used for purposes of control. Of the 35 syphilitic cases 17 were in the active stage, and of these 13 gave a positive reaction to the test and 4 did not react. In 6 cases where chancres existed without secondary symptoms the test was positive in only 1 case. In 2 cases of latent syphilis the test was negative. Of 7 cases of adenitis after chancre 5 gave positive reaction and 2 negative; in some of these cases secondary symptoms were just beginning. In one case of mucous patches, but without any history of syphilis, the test was negative. Justus claimed that his test was positive only for syphilis in the active secondary stage, so that Dr. Jones' work is confirmatory of the original report, although the test does not prove as unfailing as Dr. Justus originally announced. The test will undoubtedly be of service for diagnostic purposes but it has not the value that was claimed for it. Like the diazo reaction the test is of significance when positive but not when negative.

Hemoglobin in Other Infections.—Dr. Ewing in discussion said that active syphilis undoubtedly causes the presence in the circulation of certain toxic substances which make the red blood-cells more delicate. The absorption of mercury into the system under these circumstances acts as a globulicide and the test might very well prove of value. It is probable, however, that the action of syphilis on the red blood-cells is not specific and that other acute infections, as for instance malaria and septicemia, would produce a similar effect upon the red blood-corpuscles Before the test could assuredly have any practical value it should be tried extensively on such cases.

Dr. Lapowski said that for the success of the Justus test all that is necessary is the absorption of mercury. A single inunction of mercury or a single dose of it by any other means is sufficient for the test. Later on under the influence of mercury the red blood-corpuscles increase in number and the hemoglobin value returns to the normal.

Treatment of Vertebral Rheumatism.—Dr. H. Forrestier of Aix-les-Bains read a paper in which he described five cases of the pseudoneuralgic form of chronic vertebral rheumatism. While the text-

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books mention torticollis and lumbago, very little is said of the spastic conditions induced by rheumatism in other portions of the spine. In five cases which Dr. Forrestier has had under treatment the stiffness occurred mainly in the dorsal region and the patients, as a rule, were more comfortable sitting than lying down. In some of the cases other joints were swollen because of the rheumatism and sometimes the knee-jerks were exaggerated and other nervous symptoms were present. All of the cases were benefited by douche massage, that is, by massage given while a strong douche of water, at a temperature of from 85° to 95° F., is played over the part which is being kneaded. The massage is given not gently, but with a good deal of force. The results of the treatment are encourageing from the beginning and the relief obtained seems to be lasting.

In discussion Dr. Virgil P. Gibney said that in young people, where the rigid condition of the spine develops which is so characteristic of chronic vertebral rheumatism, it is well to be sure that there is no latent Pott's disease. Such cases of tuberculous degeneration of the vertebra often run an extremely slow, insidious course without any localizing symptoms and massage would be the very worst thing for them.

NEW YORK COUNTY MEDICAL ASSOCIATION.

Stated Meeting, Held January 15, 1900.

The President, Frederick Holme Wiggin, M.D., in the Chair.

Drainage of Pyosalpinx.—A paper describing a new method of retroperineal drainage for this disease, with a report of five cases, was read by Dr. Leon F. Garrigues. The paper, with the discussion which followed it, will appear in a subsequent issue of the MEDICAL NEWS.

Strangulated Hernia.—Dr Parker Syms said that the prominent feature of a strangulated hernia is the constriction of blood-vessels which occurs at the point of strangulation and which will inevitably lead, unless relieved, to gangrene. This practically always fatal termination must be guarded against. The sooner measures are taken for the relief of the constriction the better. Active interference alone, and not expectant treatment, can be relied on with any assurance to save patients. In these days of aseptic surgery, when hundred of operations for the radical cure of hernia are reported without a single death and when the death-rate from abdominal operations is extremely low, there is no reason for the delay that used to be advised in these cases. As soon as the diagnosis of strangulated hernia can be made, operation should be performed. It is the progress of the disease, not operative interference, that is to be feared. The symptoms of this condition are those of acute intestinal obstruction with certain additional local symptoms. There is abdominal shock, and localized pain and tenderness over the hernial sac. Shortly after the development of these symptoms typanites manifests itself and absolute constipation sets in, except for such fecal matter as may have been contained in the large intestine below the constriction. The pulse becomes weak and rapid, with the wiriness characteristic of serious abdominal conditions. Vomiting manifests itself after some hours and consists, at first, of the contents of the stomach, then of the partially digested contents of the upper small intestine and finally of a more or less gruelly fecal matter. The Hippocratic face with pinched, drawn, anxious expression, is usually present. There is in addition a characteristic combination of fear and braggadocio in the patient's manner. That he is anxious and worried is clear, and yet he is apt to keep assuring himself and others that he is all right. This may become almost a form of delirium or hallucination. The general circulation becomes sluggish and the extremities especially give evidence of this fact. Although practically all the text-books advise it, taxis should not be employed. It always does more harm than good, and many a fatal termination or serious complication to operative interference is really due to the ill-advised continuance of more or less forcible efforts at reduction. All that should be done in this way is to put an ice-bag over the hernia and place the patient in a favorable position for the return of the hernia within the abdomen. No food should be given as long as the symptoms continue. Operation should be done before any severe symptoms set in. Confirmation of the diagnosis by fecal vomiting or collapse should not be waited for. It must be borne in mind that even gentle manipulation of a hernial sac in which gangrene is threatening may not be free from danger.

Technic of the Operation.—Usually the patients are not able to stand general anesthesia. At least, the risk of operation seems to be considerably increased thereby. Morphine and whiskey, about a half-a-grain and an ounce respectively should be administered some twenty minutes before the operation, and then local anesthesia should be employed to prevent severe pain. The incision should be free in order that the site of constriction can be seen. Even if the intestine looks gangrenous it may recover. It is not sufficient merely to place hot towels around it and wait for half an hour to see if the circulation may be restored, but the wound should be left open for a day or more and every opportunity given for the intestine to recover its impaired vitality. If the intestine looks reasonably healthy and the patient's condition warrants it, radical operation for the hernia should be done at once, following one of the many modifications of Bassini's method. If, owing to delay, the patient is greatly prostrated, simple suture may be done, or the wound gently packed, If the intestine is frankly gangrenous extirpation of the dead portion and an end-to-end anastomosis should be done at once, if the patient's condition will allow it. Should the patient be very weak, an artificial anus may be made and

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the intestinal anastomosis deferred until he has regained his strength.

Diagnosis.—In the discussion Dr. Henry Roth said that the most important practical feature of this affection is its early diagnosis. On early diagnosis depended early operative interference and that would serve to reduce the mortality more than anything else. The most prominent symptoms are always the reflex changes produced by the irritation of the abdominal nerve. There is shock, pallor, cold extremities, weak heart-impulse, thin, thready pulse, more rapid than normal, and lowered temperature. The cardinal symptoms are those of shock and collapse. The pain is first around the umbilicus, as in colic, and then is localized at the seat of constriction. The tenderness is always local. The pathognomonic sign is the complete constipation. This is due not so much to actual stoppage of the flow of fecal matter by occlusion of the intestine as to a reflex paralysis that prevents peristalsis. As the indol in the feces is delayed in its passage through the intestine, it undergoes further change and is absorbed, appearing as indican in the urine. The urine becomes diminished in amount, partly because there is no absorption from the intestine, partly because there is a reflex diminution of excretion of urine, and partly because the lowered blood pressure due to shock prevents kidney function. In incarceration of the intestine the symptoms are not so severe and are more strictly localized. It must be remembered that where symptoms of intestinal obstruction or strangulated hernia occur and no tumor can be found at any of the ordinary locations where hernias occur, the sciatic and obturator regions should be carefully examined for the unusual forms of hernia. If but very few signs of a hernial tumor exist and the symptoms of strangulation are evident the patient should be given the benefit of the doubt and should be treated for strangulated hernia.

Dr. John F. Erdmann said that in these days of aseptic surgery, as soon as the diagnosis is made with assurance, the operation should be done and should be followed by the steps necessary for a radical cure. Taxis should be made only for a few minutes at most and not at all if it has been already practised by others, or, if the constriction proves on close examination to be small and hard. Morphine should be given about half an hour before taxis is attempted in order to relax the tissues. Hot applications are better than cold ones. If the taxis is unsuccessful the morphine will then serve the purpose of preparing the patient for local anesthesia. For this purpose eucaine B. is the best and most free from danger. Pain is not complained of under this agent even when the manipulations are extensive and somewhat prolonged. Sad results so often follow the use of general anesthesia that it is better as a rule not to employ it. If, after incision, the intestines seem to be very low in vitality and gangrene seems to be threatening, hot towels should be employed in order to decide whether vitality will return or not. Gangrenous intestines, when patients are very weak, may be left on the abdominal wall with gauze packed about them. The delay should not, however, be too long as the patient grows constantly weaker and as soon as reasonable reaction has set in an intestinal anastomosis should be done.

Radical Cure After Operation.—Dr. Irving S. Haynes said that if during the manipulations a tear should occur in the hernial sac, even up into the abdomen, this need not cause much anxiety. It can be sewed up or tied off. The sac should be obliterated as high up as possible after exerting traction upon it, so as to prevent the puckering and depression in the peritoneum which would predispose to the recurrence of the hernia. A portion of the sac should not be left with the idea of making a cushion of it in order to prevent the extrusion of intestine later on. It will never serve this purpose. It gradually becomes absorbed under pressure and a dimple in the peritoneum takes the place of the supposed cushion and gives occasion for another hernia. The peritoneum itself cannot be strengthened. The recurrence of the hernia must be prevented by making the abdominal wall stronger than it was before. In children the internal ring in inguinal hernia is almost directly behind the external ring. This is also the case in adults where the hernia has been large or has existed for a long time. Under these circumstances a new canal should be made, so as to restore the previous condition as far as possible and leave no opening directly from the peritoneal cavity to the abdominal wall. Where there are distinct varicosities in the cord these should be reduced in size by excision and ligature. The Bassini method seems to be the best and an absorbable suture should always be used. Silkworm-gut and wire simply act as foreign bodies and do not strengthen the tissues. In order to secure primary union there should be little handling of the tissues and where there is a good deal of fat some of it should be removed to relieve tension on the sutures. Tension nearly always gives rise, in fatty subjects particularly, to delayed union.

Prophylactic and Postoperative Treatment.—Dr. DeGarmo said that the best prophylactic treatment for strangulated hernia is the performance of a radical cure. Where the rupture is small, however, and does not come down when a light truss is employed, it may be proper to prescribe a well-fitting truss. Too much in the fitting of trusses is left to the instrument maker. It is not a shoemaker or a blacksmith who knows best how to fit a truss, although he may understand the mechanical principles on which they are made. The profession has neglected this subject entirely too much. As to the immediate prophylactic treatment of the serious consequences of a strangulation, very little can be said. Taxis has been considered of value for a long time, but patients seem to do better without it and it very seldom does any good in cases of real strangulation. Where taxis is attempted the gut should not be pushed back but should be pulled down. If the manipu-

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lator can succeed in pulling out a little more intestine from the abdomen he will usually succeed and with comparative ease in reducing the hernia. After a successful operation for radical cure patients may be allowed to get up after about three weeks, wearing a bandage for a month or so, and then may be allowed to go absolutely untrammeled.

Dr. Charles N. Dowd said that it is delay and not the operation itself which causes the high mortality in cases of strangulated hernia. There art no contraindications to operation. Age need not delay the surgeon. He recently operated on a man aged seventy-five who had an enlarged prostate. The patient had been himself passing a catheter for a long time, had infected himself and had a severe cystitis, and was very debilitated. The symptoms were rather mild at first but pointed to some intestinal obstruction. There was a painful and tender lump about the middle of Poupart's ligament. It looked like an inflamed lymph node. At first the patient refused operation, but twelve hours later an incision was made and a small strangulated femoral hernia was found and promptly relieved. Two children of respectively four and six months of age, operated on for strangulated hernia, promptly recovered. They bore the operation very well and there was no necessity for hurry or for the omission of any of the usual steps of the operation. Babies stand such operations muct better than has been thought. The general practitioner is sometimes deterred from operating in cases of strangulated hernia by the memory of the long list of the coverings of hernia which he learned during his course in anatomy. In order to operate successfully there is no need to remember these, but simply to make an incision down to the point of constriction, which is usually in the external ring, in the aponeurosis of the external oblique muscle.

Dr. Hotchkiss said there is small danger if the operation is performed early. Recently on an old woman, eighty-one years of age, he operated with good result. The diagnosis is sometimes not so clear as could be wished. This is often the case in the form known as Littré's hernia, in which only a portion of the circumference of the intestine is contained in the hernial sac. The tumor is very small, almost unnoticeable. Even under these circumstances, however, gangrene with perforation and peritonitis may result. Where the symptoms are very suspicious it is safer to explore than to wait long in the hope that they may disappear.

REVIEWS.

Kirke's Handbook of Physiology. Fifteenth American edition; revised by WARREN COLEMAN, M.D., Professor of Physiology in the Woman's Medical College, New York, etc., and CHARLES L. DANA, A.M., M.D., Professor of Nervous Diseases, Medical Department, Cornell University. New York: William Wood & Co., 1899.

THIS edition of Kirk's famous work contains but few changes. These which find a place are on the cell and in the consideration of the coagulation of the blood, in which the rôle of the nucleo-albumin, combining with the calcium salts according to Hammarsten and Lilienfeld, is thoroughly gone into. This combination, thrombin, splits the fibrogen into fibrin and fibrin-globulin, as is now believed but not entirely proven. The ductless glands are given more space than they have hitherto occupied, in accordance with the many clinical and experimental efforts of recent years. Much of the chapter on muscle nerve physiology is also new. Although this edition does not represent the English revision, it will no doubt be satisfactory to many American teachers.

A Pocket Text-Book of Physiology. By H. D. COLLINS, M.D., Assistant Demonstrator of Anatomy, and W. H. ROCKWELL, JR., A.B., M.D., Assistant Demonstrator of Anatomy, College of Physicians and Surgeons, New York. Illustrated. Philadelphia and New York: Lea Bros. & Co., 1899.

THIS little volume, although designated as a pocket edition of physiology, fulfils the purpose of a complete work on the subject after eliminating unnecessary information for the medical student or the general practitioner. The larger textbooks deal with experimental physiology which certainly cannot be included in a work of this kind. Its chapters on circulation, digestion, and particularly on the nervous system are as complete as is possible in such an edition. It is a valuable addition to the series and is up-to-date in every particular. Embryology is included in an interesting chapter. The typography is excellent.

A Blank Book for Autopsy Protocols. By ALDRED SCOTT WARTHIN, M.D., Ph.D., Assistant Professor of Pathology in the University of Michigan. Ann Arbor: George Wahr, 1899.

THE medical student at the University of Michigan is expected to attend twenty autopsies during the last two years of his studies, and this book is designed to facilitate the keeping of a careful protocol, which he is required to make in every case. The book is of a convenient size and can accommodate the autopsy protocols of ten cases. Each autopsy is allowed ten pages, carefully ruled for the various organs. The difficulty in employing such a book for general post-mortem examinations is that it may often happen that the space given to a certain organ will be inadequate in many instances to contain the necessary description of the pathologic condition. However, for the purpose designed the book will be found very satisfactory.

A Text-book of Physiology. For Students and Practitioners. By WINFIELD S. HALL, A.M., M.D., Ph.D., Professor of Physiology in the Northwestern Medical School, Chicago. Il-

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lustrated. Philadelphia and New York: Lea Brothers & Co., 1899.

PHYSIOLOGY has sounded a new note in recent years. It no longer deals simply with organ and function, but seizes for its explanation of life processes upon comparative morphology and embryology, upon the refinements of chemistry and physics, upon comparative anatomy and histology. The work under review is a fine example of this newer physiology. In style and manner perfect, it teaches its lessons from the broad standpoint of comparative physiology, it draws its deductions from experimental evidence not only, but from the cognate sciences as well. At important points historical data are added, which throw light to the reader as to the identity of familiar names and trace for him the methods and means of discovery of vital physiologic facts. If the work is a literary success, it is certainly also a scientific success in the broadest conception of the term.

There is scarcely the space at the reviewer's command which so important an issue demands. Some important elements will therefore be pointed out which will illustrate the general high trend of Dr. Hall's book. In the first place, the broad conception of physiology, which the author has, is evident in every page. One needs to read but little of the book to be convinced of this. His chapter on the cell alone is worth the price of the work, not because it is not altogether new, but because it presents the knowledge of cell structure as it is held to-day in a most perfect form. His very condemnation is admirable. Again, in the physiology of the nervous system the neuron theory is elaborately, yet briefly given; but so clearly that it must be very easily comprehensible even to the novice.

The author inclines to Schmidt's and Hammarsten's theory as to the coagulation of the blood, the ultimate sources of thrombin, on the one hand, and fibronogen on the other, being the nucleoplasm and the cytoplasm, respectively, derived from the cell protoplasm. He believes the theory of these investigators "as satisfactory as any." In the treatment of the circulation, the physics of the function is clearly depicted, as, indeed, it is of all the various functions. The chemistry of physiologic processes is emphasized in such a way that while the students will not be puzzled, more advanced investigators will find abundant material. This is well seen, for example, in the discussion of the digestive functions.

The author has seen fit not to consider the physiology of the so-called ductless glands. We think this an omission of importance in view of the great clinical interest attaching to these organs at the present time. The book-making is especially to be commended.

Taken as a whole, it has been a most satisfactory pleasure to read Dr. Hall's book. It is essentially modern, wholly scientific, and is indeed one of the few books of which one can say that every student of medicine and biology will be a gainer for having read it.

BOOKS RECEIVED.

The MEDICAL NEWS *acknowledges the receipt of the following new publications. Reviews of those possessing special interest for the readers of the* MEDICAL NEWS *will shortly appear.*

LECTURES ON THE PRINCIPLES OF SURGERY. Delivered at the University of Michigan. By Dr. Chas. B. Nancrede. 8vo., 398 pages. Illustrated. W. B. Saunders, Philadelphia.

TREATISE ON ORTHOPEDIC SURGERY. By Dr. E. H. Bradford and Dr. R. W. Lovett. Second Revised Edition. 8vo., 655 pages. Illustrated. Wm. Wood & Co., New York.

A PRACTICAL TREATISE ON MATERIA MEDICA AND THERAPEUTICS. By Dr. Roberts Bartholow. Tenth Edition, Revised and Enlarged. 8vo., 866 pages. D. Appleton and Company, New York.

HERMANN LUDWIG FERDINAND VON HELMHOLTZ. By Dr. John G. McKendrick, 8vo., 300 pages. Masters of Medicine Series. Longmans, Green & Co., New York.

A MANUAL OF THE DIAGNOSIS AND TREATMENT OF THE DISEASES OF THE EYE. 8vo., 604 pages. Illustrated. By Dr. E. Jackson. W. B. Saunders, Philadelphia.

A TEXT-BOOK OF DISEASES OF WOMEN. By Dr. Charles B. Penrose. 8vo., 851 pages. Illustrated. W. B. Saunders, Philadelphia.

HISTOLOGY AND PATHOLOGY. A Manual for Students and Practitioners. By Dr. J. J. Nichols and Dr. F. P. Vale. 8vo., 458 pages. Illustrated. Lea Brothers & Co., Philadelphia and New York.

CHRISTIAN SCIENCE. An Exposition of Mrs. Eddy's Wonderful Discovery, Including Its Legal Aspects. By W. A. Purrington. Cap. 8vo., 194 pages. Illustrated. E. B. Treat, New York.

A MANUAL OF SURGICAL TREATMENT. By Dr. W. Watson Cheyne and Dr. F. F. Burghard. In Six Volumes. Volume II. Royal, 8vo., 382 pages. Lea Brothers & Co., Philadelphia and New York.

THE CARE AND TREATMENT OF EPILEPTICS. By William Pryor Letchworth, LL.D. Royal, 8vo., 246 pages. Illustrated. G. P. Putnam's Sons, New York and London.

MENTAL AFFECTIONS, AN INTRODUCTION TO THE STUDY OF INSANITY. By Dr. John MacPherson. 8vo., 380 pages. Macmillan & Co., London and New York.

PRACTICAL TEXT-BOOK OF MIDWIFERY FOR NURSES AND STUDENTS. By Dr. Robert Jardine. Cap. 8vo., 245 pages. Illustrated. Macmillan & Co., New York and London.

THE REFRACTION OF THE EYE, INCLUDING A COMPLETE TREATISE ON OPHTHALMOMETRY. A Clinical Text-Book for Students and Practitioners. By Dr. A. Edward Davis. Demy. 8vo., 431 pages. Illustrated. Macmillan & Co., London and New York.

THE TREATMENT OF DISEASES OF THE NERVOUS SYSTEM. A Manual for Practitioners. By Dr. Joseph Collins. 8vo., 602 pages. Wm. Wood & Co., New York. York.

DISEASES OF WOMEN. A Treatise on the Principles and Practice of Gynecology. By Dr. E. C. Dudley. Second Edition. Revised and Enlarged. 8vo., 717 pages. Illustrated. Lea Brothers & Co., Philadelphia and New York.

A MANUAL OF MODERN SURGERY. An Exposition of the Accepted Doctrines and Approved Operative Procedures of the Present Time. For the use of Students and Practitioners. By Dr. John B. Roberts. Second Edition. Revised and Enlarged. 8vo., 842 pages. Illustrated. Lea Brothers & Co., Philadelphia. and New York.

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THE MEDICAL NEWS.

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ORIGINAL ARTICLES.

NOTES ON PLAGUE.

BY MAJOR H. E. DEANE,
OF CALCUTTA, INDIA;
ROYAL ARMY MEDICAL CORPS.

BEFORE dealing with plague specifically in Calcutta it will be advantageous to consider epidemics of plague in other places, and what lessons can be learned from previous experience of this disase. We have to deal with a specific, febrile, infectious disorder, and plague presents the difficulties common to the other infectious diseases, with difficulties peculiar to itself, such as the length of time during which it will persist and recur in a place and its disregard of any measures adopted for its abolition or cure. There have been more epidemics of plague in the world than of any other disease; and it has been widely spread, devastating whole populations.

General View.—It is believed to have first appeared in the Delta of the Nile, in A. D. 542, and spread over Egypt to Constantinople, where it is said 10,000 people died in one day. It spread over the whole Roman Empire and north of Africa in the succeeding century. In the fourteenth century nearly the whole of Europe and England were over-run by the plague, one-fourth of the population of Europe, 25,000,000, being estimated to have died. It recurred in the fifteenth century in Europe and England, and Henry VII. left London for France, on account of a bad epidemic there. The same story is told of the sixteenth century, in which 1000 people died weekly of plague in London during an epidemic in 1563-64. The last case reported in England was in 1679, and during the 76 years between 1603-79 plague was absent from the death returns on four occasions only, in 1629, 1633, 1635, and 1670; the total mortality being 188,571. From toward the end of the seventeenth century the disease showed a tendency to retrocede eastward, and although during this and the eighteenth centuries it was prevalent in France and other parts of Europe, the areas affected were much diminished. In this nineteenth century there have been more or less severe outbreaks over limited areas of Europe and in Persia; the last appearance in Europe being in the Russian epidemic of 1878-79. This will show the lengthy period over which the disease will manifest itself, and no subsequent history is calculated to lead us to suppose we can get rid of the disease after one outbreak, in other words "stamp out" the plague, a phrase which has often been in some men's mouths in India since 1896. Take, again, the outbreak in Ahmedabad, in 1618, said to have started in the Punjab in 1611, and lasting for eight years; again starting in 1812 in Cutch and spreading to Ahmedabad, devastating large tracts of country till 1821; the next outbreak at Pali, in 1836, lasted till 1838, killing 60,000 people. The first accounts of trustworthy details of plague in India refer to this epidemic in Cutch, which broke out at a time succeeding a severe famine.

The origin of the disease is a mystery, but the origin of other well understood diseases, *e.g.*, syphilis, is also unknown. The conditions favoring the persistence of plague when once it is introduced present a uniform consistency, and there is no material deviation in the observations of authorities as to what they are, although as such conditions existed before the disease manifested itself, and continued after its cessation, they help us to no solution as to the origin of the disease. The conditions are want of light and air, overcrowding, and poverty, and the very often accompanying personal and general surrounding filth. In exemplification I may quote one remark about the people of Dholera, a locality affected during the above-mentioned epidemic in Cutch: "They wear large quantities of clothes which are not changed till they drop off rotten with filth. The filth is ingrained in their skins." The disease as regards one point particularly is like typhus, in that it attacks people living on the ground floor of a house much more than, and in decreasing ratio, those living in the higher ones. This fact was observed in Bombay in the epidemic 1896-97, but may be partly accounted for by more over-crowding on the ground floors. An instance may be given from the Cutch epidemic. Among the places to which it spread was Moroi. A medical officer who reported on the outbreak says that the Thakur's palace, containing about 100 people, escaped completely. It was a large well-aired place, elevated above the other parts of the town. Equal immunity was enjoyed by a small village situated on the opposite side of the river less than a quarter of a mile away on a very high and exposed situation, although there was daily and hourly communication between the village and the infected town.

There is nothing in the history of plague to show that climatic conditions have any effect upon its progress or cessation. It has prevailed in hot, cold, dry, and wet seasons, and any changes in the prevalence of the disease at certain seasonal variations seem to be purely coincidental, and determined by the natural course of epidemics, ascent, height, and descent. To sum the case up briefly, after a study of the conditions under which plague has prevailed, we are not advanced beyond the knowledge that other infec-

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tious diseases, such as typhus, have prevailed under similar conditions, poor, ill-fed, dirty populations living in crowds with absence of light and air. Improvement in such conditions in Europe, improvements which have taken generations to effect, may reasonably be said to have caused the retrocession of plague thence.

Mode of Transmission.—Although the origin of infection may defy elucidation, once the disease has manifested its presence opportunities occur for observing the method of its transmission from person to person, and place to place. More or less definite modes of spread have been determined for various of the infective fevers. Allowing that each infective disease has a poisonous entity outside the body, it is wide of the purpose of this article to discuss the mode of entry of such into the body, as we cannot expect to know of plague yet what we know of none of the infectious diseases, that is, how the poison enters the system. One point I may just refer to, as it seems proved in some men's minds. The preponderance of femoral buboes in plague is supposed to show that the infection took place through abrasions or cuts on the feet; personally I have not been able to find such abrasions, and the only cases in which there was a solution of continuity of the skin affording a possible channel of entry, the bubo in the femoral region was on the opposite side. In one hospital in Bombay in 1897 the inguinal buboes on the left side were more frequent than the femoral on the same side. The next most frequent sites for the buboes are the inguinal axillary regions. The latter might be accounted for by infection from the hands; but I take the question to be entirely one of "might be." The same order of frequency as to the position of buboes is being observed in the Oporto outbreak at the present time, and it is not stated to be the case that the population all go bare-footed.

To return to the subject of the means of transmission. I think here we cannot separate sharply contagion and infection, and I propose including the former in the latter term. The first point to consider is the communication of the disease from the affected to those in immediate contact. It is almost impossible to judge of the extent to which this may take place during the height of an epidemic, as in a large freely intermingling population one cannot trace the direct connection, and many persons may become infected from a common source apart from any contact with those suffering from the disease. But in the early stages there are greater facilities for proving this mode of transmission. There is clear evidence as to the circumstances under which such transmission will and will not prevail. To take the former case first, ten people assembled every night at a house in Calcutta for gunja smoking. On March 16, 1899, A fell ill with plague, and died on the 20th. (For simplification I will use alphabetical letters.) On March 22d B who lived elsewhere became ill and died the 26th. C and D after a week's illness died on March 28th and 29th, and E died on the 30th, all elsewhere. F fell ill at his house elsewhere, on the 27th and died March 28th, and F's wife was taken on March 30th and died April 2d. They had two sons who, after the mother's death, left the house and went to live elsewhere, and one of them developed plague on April 5th and died on the 7th. This case, details of which were obtained after great trouble by Dr. Justice, in charge of the district, shows how infection can be carried by human beings; except in the cases noted, no spread could be traced from the infected people; although such may have been the case. The facts related, while distinctly showing that the infection can be carried from man to man, also exemplifies the comparatively small part such a method plays. Opinions may differ as to the extent the disease is spread by direct personal transmission, under the conditions of dirt, and over-crowding in ill-lighted and ill-ventilated habitations. French physicians who studied an epidemic in Egypt in the early part of this century declared against the disease being contagious. However this may be, there has long been an unanimous opinion that under conditions of light and air, plague infection is at a minimum. Going back to the plague in Pali, in 1836, Dr. Rennie, in his report, says: "I feel no hesitation in professing my belief that a man in sound health, provided he continue to breathe pure air, might safely keep his hand a whole day in contact with any one suffering from the Pali fever; but, if he sat within the same hut and inhaled the same tainted atmosphere half the time, he would probably be seized with similar illness. None of the medical officers or even native assistants, who handled patients affected with the Pali disease and felt their pulse for days and weeks have suffered."

To give instances in later times, in a plague hospital in Bombay, in 1897, of about 400 people who visited patients and in some instances remained constantly with them, not one contracted plague; and I have known a relative to sit on a bed with her arms round the patient for hours without becoming infected. Hospital attendants have been affected, but in a very small proportion. When one considers how a hospital must literally reek with infection, it is not surprising that some individuals, constantly breathing the air for weeks and months together, and in contact with various secretions, should contract the disease, especially if the health was impaired, as has been the case in the instances where European medical men have contracted plague in India and died. Every plague hospital displays the same immunity of visitors, relatives in constant attendance, and the hospital staff. Another point bearing on the same subject is that persons removed to a segregation camp from any infected locality cease to suffer from the disease. In the camp contiguous to the Plague Hospital at Bangalore, of which I had charge in 1898-99, there were 1598 people admitted of whom 51 developed plague, and the large majority of those in the first day after segregation, having evidently been infected

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on admission. These people took the same clothes to the camp as they wore at home. It is needless to multiply instances. This is sufficient to allow us to make one positive assertion about the plague, *i.e.*, that the source of infection is deprived of virulence by exposure to light and air and, moreover, kindly lends itself very easily to such modifying influences.

We are naturally led now to the next step in the causation of infection, *viz.*, fomites. I will give two instances which bear on this. One is related by Hirsch as having occurred at Wetljanka in 1878, 1879. All the inhabitants of a certain house died, and two months after a box of clothing, which had not been touched previously, was sent to another house, the epidemic having disappeared. A girl took some of the clothing and set to work on it, and four days later she developed plague. One other instance occurred in 1897 during the Bombay epidemic. A vessel embarked a crew at Bombay on the 20th of August and arrived in the Thames on September the 11th. There were between 300 and 400 passengers on board, and no suspicion of plague had arisen. On the 26th or 27th of September one of the Goanese stewards became ill and died on October 3d. Another steward who slept in the same cabin as the first mentioned was also taken ill about the 26th and died on September the 27th. Both cases were plague, and the infection was traced to a bundle of clothes which had remained unopened until the end of the voyage. In connection with this, it will be interesting to note some laboratory experiments as to the vitality of the plague bacillus, as such experiments tend to bear out what has been observed as to the lessened danger of infection when in the presence of light and air. The German Plague Commission, who went to Bombay report that "outside of the body of man or of the bodies of certain animals the plague bacillus shows a notable tendency to perish. Pure cultivations of the plague bacillus from different sources and of different ages in fluid or on solid media were found to be quite dead after 15 minutes continuous exposure to a heat of 70° C. When the heat was 80° C. five minutes were enough for sterilization. A cultivation suspended in water, when examined immediately after exposure to 100° C. was found to contain no living bacilli. Material containing plague bacilli was placed in different ways upon linen, wool, silk stuff, and also upon threads, gauze, filter paper, pieces of glass, earth, etc., kept in different conditions, and tested from time to time as to its infectiousness. The life of the bacilli under these circumstances was at most eight to ten days, and often only two to five days. The infectiousness of bacilli on the dried skin of two mice that had died of plague was extinguished in the one case on the fourth, and in the other on the sixth day. The German Plague Commission also found that corrosive sublimate 1-1000 killed the bacilli at once; carbolic acid 1-1000 in ten minutes. The bacillus is also sensitive to mineral acids, being destroyed in five minutes by pure sulphuric acid diluted to 1-2000. Yet at Poona it has been reported that disinfection and evacuation of houses for ten days only was quite useless, and as the people returned they were attacked with plague within a few days. The weak point of these and similar experiments is that the bacillus is placed and observed under artificial and manufactured conditions, which are not safe for certain guides as to the vitality of infection under natural conditions; of which latter, except as noted previously, we are ignorant. The constant recrudescences of plague in the Himalayan regions of Kumaon and Garhwal point to the infection being kept up in fomites. Articles of merchandise and foodstuffs must be noted apart from fomites, as there is no case on record where plague has been introduced from one country to another, or from place to place in an infected country by such means; suppositions that such may have been the case have been mooted, but there are no facts on record to make them reasonable, at all events during modern times.

The third step in this direction concerns the question of infection from animals. I will confine myself to rats, one of the very limited class liable to plague. I cannot disabuse my mind of the conviction that the spread of infection by rats, even from house to house or street to street, has been magnified out of all proportion by an undue concentration of thought on that limited sphere of the subject. The fact is that in ancient and modern times, an outbreak of plague in human beings has been preceded in many instances by a large mortality among rats. How do the rats become infected? No one knows. There are nothing but theories to be found; for instance, when plague existed at Hardwar, on the Ganges, in 1897, unusual mortality among rats took place at Kankhal, about a mile distant. It is not suggested that infected rats walked that mile from Hardwar, but that the ones resident at Kankhal got infected by food (grain, etc.) taken to Kankhal. Now, what happened; the disease in the rats ended (or the rats all came to an end) and disinfection was carried out where rats had died, and sugar, grain, etc., exposed to the sun for eight hours. This was in the middle of June, 1897, and the last case at Hardwar was reported on the 8th of June. No cases were reported then at Kankhal, and all seems to have gone well until September, communication meantime taking place between Bombay and Kankhal. In the first week in September cases of acute illness with rapid death were occurring, but plague was not declared until the 16th and then became epidemic. I think this case requires no other explanation than human transmission. I can find no instances of infection being carried any distance by rats, and although it is supposed that rats which have died of plague may be carried in grain, it is, on the other hand, stated that the power to infect very soon becomes destroyed in dead bodies. To quote two authorities in support of my opinion, Dr. Bitter and Dr. Rogers, of the Egyptian

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Plague Commission, hold the view that rats are of very minor importance in spreading the disease.

Treatment.—The part of the subject of most absorbing interest to the practical physician is the treatment of the disease, or, rather, the treatment of the patient suffering from the disease, as individual cases will present in this, as in all other diseases, symptoms indicating remedies having no obvious relation at first sight to the nomenclature of the complaint. Patients, not diseases, call for treatment. At the same time, certain classes of remedies are adapted to the majority of patients suffering from the more prominent manifestations of the totality of the symptoms, defined by the nomenclature of diseases. I will consider the experience of plague treatment under three headings and confine myself to drug medication, as consideration of vis-medicatrix nature, which is too obviously a minus quantity in this disease, and dieting with general hygienic measures, etc., carry us no way at all. (1) Treatment by what I will call ordinary traditional medicine. (2) Treatment by serum as practised by Dr. Yersin. (3) Treatment, introduced by myself, by snake venoms.

(1) The records under this heading display a collection of compound prescriptions with from three to six drugs given systematically, with various prescriptions for individual symptoms; in short, a routine method of symptom treatment, based on, well, I suppose, orthodoxy! I will take some hospital records in order, and call them A, etc.

A reports: "As regards the effect of medicine, it cannot be stated with satisfaction that we possess any standard remedies of certainty. What might seemingly cure one patient is ineffective in another of the same type (because the patients want treating, not the disease. H. E. D.), and it is questionable whether the successes shown are not wholly due to scientific nursing and hygienic surroundings of a superior nature." The following was the drug treatment in this hospital under which one patient recovered, but it is reported that several others similarly treated derived no benefit and died. Magn. sulph. ℥vi was given to begin with; then every three hours:

℞ Sodii salicyl. ..... grs. v
Liq. hyd. perchlor. ..... ℥ss
Sp. octheris Nit. ..... ℥ss
Tinct. digit. ..... ♏ v
Rum ..... ℥ss
Water ..... ℥iss.

"The object of the above prescription was, first, that the salicylate of soda acted as a diaphoretic and antipyretic; digitalis was inserted both as a cardiac tonic and to counteract any depressing effect which the salicylate might cause. The nitrate was also given to encourage the secretions, and rum for its stimulating qualities. The mercury was added for its alterative and antiseptic qualities under the idea that some poison would be neutralized."

I quote this in full, not to criticise the author of it, but to let it stand as its own comment on a system of medicine which is no practical improvement on Galen's instructions as to determining whether a disease is hot or cold and then administrating a cold or hot drug. We, in this nineteenth century, instead of hot and cold diseases, have ideas as to poisons requiring neutralizing, an idea somewhat akin to the doctrines of the ancient Dogmatists, and we call drugs, instead of hot and cold, alterative, tonic, eliminative, stimulating, etc., classing many drugs with very distinctive actions on the human body, under a theoretical and artificial nomenclature.

Another stock prescription largely given was as follows:

Liq. strych. ..... ♏ iii
Carbolic acid ..... ♏ ii
Tinct. iodine ..... ♏ iv
Tinct. digitalis ..... ♏ v
Aqua ..... ℥i
Every three hours.

In addition there was the usual prescription of morphine at bed-time, Dover's powder for diarrhea and, in short, the indiscriminate symptom treatment of orthodox medicine. I need not multiply these prescriptions, but will give results of various hospitals.

In the above-mentioned hospital the mortality was 60 per cent. Total number admitted, 374. In B hospital, total admissions, 304; mortality, 64 per cent. In C hospital, 86 admitted; mortality, 72 per cent. In D hospital, admissions, 107; mortality, 68 per cent.

I have only mentioned hospitals that were under European officers. All the private and caste hospitals tell the same doleful tale, although treating a smaller number of cases; the mortality being from 60 per cent. to 90 per cent. These figures include all cases admitted, many of them in a moribund condition, and some dying in 24 and 48 hours. There is no other reliable way of judging the effects of any treatment; selection of cases or omission of those dying within a certain time are fallacious and misleading; and treatment of an acute febrile disease which fails to alleviate the tendency to death in 48 hours must be said to have failed. It will be instructive to quote two more extracts regarding two of the above hospitals, as showing that a theory of the nature of a disease and of the action of remedies does not help us.

"As a special mode of treatment liq. hydrarg. perchlor. was resorted to from a conviction of the value of such a powerful disinfectant in specific disease, and the likelihood of its being useful as an intestinal disinfectant and bactericide. The general result of the hospital treatment may be attributed to this mode of medication (with remedies for prominent symptoms and complications), and gave 69 per cent. of recoveries, excluding cases moribund on admission, and those treated by Yersin and Haffkine . . . . but it is only right to state that many cases treated

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early and vigorously with this drug died, after perhaps temporary benefit and prolonged life."

"In one remarkable case which died six days after admission from double bronchopneumonia, and under full doses of mercury, the German Plague Commission found plague bacilli on three different days in the blood-cultures, but the day before death and at the post-mortem not a single plague bacillus could be demonstrated in the blood or any of the organs. Their conviction was that the patient died from the severe complication,[1] and had his vitality been greater and no complication supervened, he would certainly not have died of plague, all the bacilli being destroyed." No doubt comments on this will suggest themselves, especially to those of a humorous turn of mind; personally I will only say it reminds me of the story of the Frenchman who tried the experiment of keeping his horse alive without food, and was succeeding nicely when the animal died. The other and last note on this subject which I shall give says that "as no specific has hitherto been discovered for the plague, the treatment resolves itself into the carrying out of the general principles of medicine as applied to the treatment of symptoms arising in the course of the disease. The stimulant method and the administration of liq. hyd. perchlor. have both been given the full est trial, and both have proved equally inefficacious in either controlling or checking the disease."

(2) Dr. Yersin has been chiefly associated with the antitoxin serum treatment of plague, and as there are fuller records of the use of his serum than that of any others of a similar kind, I shall only deal with his, other serums having also the same dismal tale to tell. The antitoxic preparation was obtained from the horse, the animal being inoculated with plague virus, until lethal doses were inoperative. The blood serum then injected into another animal "effectively hinders the reproduction of the bacilli and the formation of toxins." Before going further I must say that in this attempt at treating plague there was a step in the direction toward which all scientific and beneficial therapeutics is now treading—*the single remedy.* I will give the hospital experiences of the treatment, and Dr. Yersin's own tabulated statement.

The report of A hospital says: "Professor Yersin visited the hospital on two separate occasions and declined to use his curative lymph. The many patients present, were, in his opinion, unsuitable to his purpose or otherwise far advanced in the disease."

In B hospital, 23 cases of plague were treated; but there is no mention as to their being selected, which vitiates results. Of these 13 died and 10 recovered, giving a mortality of 56 per cent. "Delirium seemed to be lessened by the serum. No improvement in the general condition of the patients could be seen, and the inflamed glands were certainly not favorably affected." In one case, serum having the guarantee of Dr. Roux and Dr. Yersin was used in a case not of severe type, and, according to Dr. Yersin, a suitable one for curative serum treatment. "Fresh buboes appeared, the primary ones became larger, more inflamed with increased surrounding edema, and the little patient died. This child, aged four years, was injected 42 hours from the initial sign, with a full dose of 40 c.c." In C hospital 4 cases were treated, the cases being selected and one being a doubtful case of plague. The other three died, and it was reported that the injection caused intense local discomfort, and "when two of the patients were conscious they dreaded a repetition of the process." In D hospital 4 cases were treated and 2 died.

When Dr. Yersin first went to Bombay he treated cases in all parts of the city and his results could not be compared by others, and he was asked to confine his treatment to the hospitals; the result of which is shown above. A statement he himself submitted to the Plague Committee gives:

17 cases treated first day of illness, mortality 12 per cent.
17 cases treated second day of illness, mortality 35 per cent.
12 cases treated third day of illness, mortality 50 per cent.
3 cases treated fourth day of illness, mortality 66 per cent.
1 case treated fifth day of illness, mortality 34 per cent.
Total of 50 cases, 34 per cent. mortality.

Before closing this part of the subject I cannot refrain from emphatically protesting against a system which has been in vogue when experiments with these serums have been made; and that is, having control cases. I think such an idea discreditable to any members of our profession who propose it. If any treatment offers any ground of hope of being successful, every patient should be given the chance of his life, and treating one case while leaving an alternate one, to watch if he will recover or die, is perilously near trying to improve medicine by murder. This may seem strong language; I intend it to be. If the Almighty has left us so helplessly in the dark as to treating the pains of the highest of His creation with the means He has given to our hands in the shape of medicinal plants, etc., rather than have recourse to such an unjustifiable system of playing with human life, let us renounce the practice of the profession until light be shed. Happily, such need not be, nor are we without a guide to treatment; but I must be content here to enter a protest against such counter-control experiments.

(3) The past history of the treatment of plague shows the use of every class of drug in the pharmacopoeia, tonics, cardiac and nervine stimulants, antiseptics, anodynes, antipyretics, diaphoretics, eliminative, et. id. *genus omne;* members of one class administrated with members of another class, and the result has been beneficially nil. The profession displays a wonderful consensus of opinion as to this. I venture to include my own treatment in considering this subject, because, like others, I have also my convictions, and my conviction about this is that the method of treatment I started in India offers

[1] This severe complication (!) is a very common and essential symptom, and an early manifested one of the clinical course of plague. H. E. D.

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a better hope of success than anything of which we have present experience. I was influenced largely in volunteering for plague duty, when officers of my service were called for, by the conviction that means existed for reducing the awful death-rate. The limits of this article preclude my entering into full details, but I may say that I applied the principle which guides us in treating any disease, a principle which is now daily becoming wider spread, with consequent benefit to humanity. There is an acute disease, killing often with fulminating rapidity and clearly requiring a rapidly acting remedy; a septicemic disease, with early marked manifestations in the central nervous system. What remedies are indicated? It is becoming daily, as I said, more and more apparent that a remedy for any disease is one which acts on the same tissues as are affected by the disease. Trying to differentiate drug action *ab usu in morbis* has been tried for centuries, and has failed. Such action must be elicited by experiments on the healthy human body. The poisons which act on the same tissues as the plague poison, and, moreover, with startling rapidity, are the snake venoms. The success which had attended the treatment of yellow fever in America by the rattlesnake poison gave me a good precedent for my hope of similar success in plague. My opportunities in Bombay in 1897 were very limited, as the hospital in my district was put under a native hakim with whom I had orders not to interfere; it being hoped that letting the native have their own medical attendance would induce them voluntarily to go to hospital.

However, without treating on the susceptibilities of hakim or patients I managed to treat many of the latter, and the former took a great interest in the subject. The hospital was opened April 20, 1897, and I ceased connection with it about the middle of July. Fifty cases were treated of whom twenty-two died. The Government report says, "It is impossible, owing to the singular character of hakim's medicines, to give any account of the general treatment adopted. But the ratio of mortality is satisfactorily low, being 44 per cent. or nearly 9 per cent. below the mean rate of all hospitals." I used almost entirely here the Lachesis trigonocephalus administered by the mouth in the cases in which I used snake venoms. I must here make a further statement about this hospital, records of which are published to the end of 1897. Up to that time 158 cases were admitted, with the singularly low mortality of 31 per cent. I have reason to believe the treatment by snake venom was continued after I left, but, whether or no, I must give hakim Din Mahomed Bhagin credit for such a record.

(To be continued.)

Women Nurses in the Army.—The Chicago Medical Society recently endorsed a bill urging the appointment of women nurses in the medical department of the army.

EXPERIMENTAL RESEARCHES ON THE EFFECTS OF INCREASED BAROMETRIC PRESSURE AND OF FOREIGN BODIES IN THE PHARYNX, ESOPHAGUS, TRACHEA AND LARYNX.

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(Continued from page 129.)

III. FOREIGN BODIES IN THE TRACHEA AND THE LARYNX.

Preliminary Remarks.—In cases of foreign bodies in the respiratory tract there is often from the symptoms alone great difficulty in determining their location. It is difficult also to decide whether or not an operation is indicated and, if indicated, where this operation is to be performed. The number of futile attempts at finding foreign bodies, and the number of catastrophies that have followed such accidents, suggested the following research.

Protocols.— The following experiments were made with a view to ascertaining the comparative values of chloroform and ether in point of safety in operations involving the upper air-passages.

1. On a sixteen-pound mongrel, in a fair condition, under ether anesthesia, the following dissections were made: Both vagi were dissected free from the carotids throughout the length of the neck; then the superior laryngeals were dissected out from their origin in the vagi to their entrance into the box of the larynx; next the glossopharyngeal was dissected out from its exit from the cranial cavity to its terminals in the muscles; finally, the hypoglossal was similarly dissected, thus exposing these structures on both sides. During the dissections the animal breathed fairly well without requiring much attention to the ether anesthesia, which was administered by means of a tracheal tube to which a rubber tube and funnel were attached in which latter cotton-wool was thrust. Manipulations of these nerves, especially of the vagus and inferior laryngeal, interfered with the respiratory as well as the circulatory action. In no instance, however, was it necessary to supply artificial respiration.

2. Dissections under chloroform anesthesia were carried out as similar to the preceding as possible, occupying as nearly as possible the same length of time in their performance on a seventeen-pound bird-dog. During the anesthesia it was noted that the blood-pressure would sink whenever the respirations became slowed and that the pressure would recover itself upon removal of the anesthetic. Early in the experiment it was found necessary to maintain artificial respiration for a short period of time, and during the latter part of the dissection respirations became extremely shallow and weak. Manipulation of the superior laryngeal or the vagus

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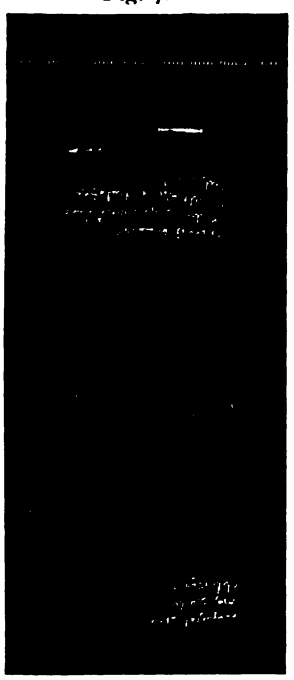
interfered with the respirations more markedly than in the preceding experiment.

3. The following experiment under ether anesthesia on a water-spaniel weighing twenty-four pounds was performed. The trachea and the larynx were both dissected free, the trachea severed at the cricoid junction, then the superior laryngeal was dissected out from its origin to its termination on both sides of the neck. A finger passed up within the larynx produced thereby an irritation in the area for inhibition. The superior laryngeals were stimulated by the faradic current, thus producing temporary arrest of respiration and complete inhibition of the heart's action. On cessation of the stimulation, both the cardiac and the respiratory actions were resumed. After this the animal was allowed to rest undisturbed with these structures exposed to the air. The respirations were decreased in amplitude and in frequency, but at no time ceased, excepting when some special irritation produced reflex inhibition.

Fig. 7.



Experiment on the removal of a laryngeal tube by means of external manipulation.—The upper tracing represents the respiration, the next the blood-pressure, below which are the signal and the time.

4. A bull-terrier, weighing twenty-eight pounds, in fair condition, was subjected, under chloroform anesthesia, to as nearly as possible the same procedure as in the foregoing case, occupying about the same length of time, with the following result: The reflex inhibitions on both the respirations and the heart were, under chloroform anesthesia, comparatively more profound. During the dissection respirations were so shallow as to cause considerable cyanosis, and for a time artificial respirations were supplied. At the close of the experiments, when the animal was allowed to rest, the respiratory action was extremely feeble and the blood-pressure had fallen more than one-half from its original height.

5. The following experiments, under ether anesthesia, were performed on a mongrel cur, weighing eighteen pounds: The superior laryngeal nerves on both sides were exposed and subjected to stimulation by mechanical manipulation, producing thereby a reflex arrest of respiration. The faradic current was then applied, producing reflex inhibition of both the respiratory and the cardiac action. This was repeated twice on each side. The normal action was regained with a fair degree of readiness after cessation of the stimulation in each instance. Artificial respirations were not required.

6. On a healthy water-spaniel, weighing twenty-two pounds, during the technic of dissecting out the trachea and applying the tracheal apparatus for maintaining anesthesia under chloroform, respirations ceased and artificial respiration was supplied during a period of five minutes, after which very slow, voluntary efforts were noted, gradually increasing in amplitude and rapidity until an over-respiratory action and recovery occurred. On reducing the animal to surgical anesthesia again, a like result was observed. During the experiment, carried out as nearly as possible as in the preceding case, the respirations were very much slowed and quite shallow, so that it was difficult to obtain a good tracing. In these experiments the larynx was exposed to all kinds of rude manipulation, for the purpose of facilitating a comparison between the results under chloroform and under ether anesthesia.

7. This experiment and the following were performed for the purpose of determining whether or not traction on the trachea from the lungs upward, or from the larynx downward, or lifting the entire trachea forcibly out of its bed, caused an effect upon the blood-pressure and the respiration. The trachea of a healthy twenty-pound mongrel was freely exposed under ether anesthesia by bloodless dissection, and after securing a control tracing of the respiration and the blood-pressure, a hook was placed between the rings of the upper portion of the trachea, and the latter organ was pulled strongly upward from the lungs in the line of its own axis. This produced no effect upon the respiratory rhythm, but it caused a fall in blood-pressure, this fall taking the form of a rather sharply rounded curve, from which it quickly recovered. Then, repeating the same maneuver, like effects were produced. The line of traction was then reversed and the trachea dragged downward on the line of its own axis, producing a dragging upon the entire larynx and the pharynx. This was followed by a decided fall in the blood-pressure and a temporary slowing of respiration. This experiment was twice repeated, with like results, although in each subsequent repetition

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the phenomena were not so marked as in the one immediately preceding. In dragging upward on the trachea, when the dragging was quickly applied, the fall in blood-pressure was correspondingly more abrupt, and suggested the probable action of mechanical causes interfering with the return circulation in the venous trunks which pass in such close anatomical relation to the trachea.

8. The animal, a fox-terrier, weighing twenty pounds, was subjected to experiments similar to those in the preceding case The phenomena attending upward traction on the trachea were practically the same as in the preceding case, except that there seemed to be some increase in the depth of respirations. On dragging down on the trachea the respirations were more decidedly slowed, and for a short period at the first dragging respirations were arrested. On raising the trachea with some force up out of its bed results similar to dragging down upon the trachea were produced.

9. Experiments, under ether anesthesia, similar to the preceding were performed on a forty-pound bull-dog with the same results, except that in dragging down forcibly upon the trachea there was a distinct inhibitory action upon the heart, whereby sweeping slow beats were executed during the period of most forcible traction. Raising the trachea up from its bed with considerable force produced similar symptoms, although less marked.

While the first six experiments involved the mere dissection and thorough stimulation of certain nerves, they confirm what has been very frequently observed in other experiments upon the respiratory tract, *viz.*, that animals under chloroform anesthesia are decidedly more liable to respiratory failure than animals under ether anesthesia. While it is recognized that it is very difficult to make satisfactory comparative observations, it has seemed that reflex inhibitory phenomena are more profound under chloroform than under ether anesthesia inasmuch as in other experimental work, not relating to this present object and purpose, similar observations have been made. These additional experiments have been made principally to test the effect of dissections upon and about the larynx and trachea, and involving the nerve trunks supplying this area.

The Physiologic Principles Involved.—The physiologic principles involved in this question are practically the same as those indicated under several other headings in this paper, namely, that no amount of irritation of the mucosa or structure of the trachea, even the cricoid portion of the larynx, is capable of producing any marked sudden effects upon either the circulation or the respiration.

Such an irritation, however, if applied to the middle or upper part of the larynx would cause most pronounced reflex inhibitory phenomena. The only reflex phenomena that a foreign body below the larynx could produce is that of coughing. While in the larynx not only coughing may be produced on slight irritation, but on greater irritation reflex arrest of respiration will occur, and on still greater irritation, in addition to the reflex arrest of respiration, there may be reflex arrest of the heart's action, causing thereby a collapse more or less profound. The symptoms of asphyxia from obstruction need never be mistaken for those of reflex inhibition from the laryngeal area.

In the case of asphyxia from obstruction, the respiratory as well as the circulatory activity will continue. The pulse will be strong and full and slow, until, finally, after from five to eight minutes, there will be intermissions, then irregular actions, then intermissions until the heart ceases in diastole. In reflex inhibition there is sudden collapse, with sudden cessation of respiratory action, and, if the circulatory action is also affected, there will be no arrest of the heart as sudden as the arrest of the respiration.

Differential Diagnosis of Tracheal and Laryngeal Lodgments.—A foreign body lodging in the trachea and not dislodged from the trachea during the attacks of coughing is incapable of producing any effect other than that indirectly produced by the powerful respiratory alterations in the act of coughing. If the foreign body is so large and the swelling so great as to completely obstruct the tube, the symptoms of asphxia, as above described, will appear. If, however, the foreign body is lodged in the larynx, there are likely to appear attacks of cyanosis, sudden in onset, during which the subject becomes cyanotic, greatly depressed—in short, passes into collapse—and, after a variable period, respirations are gradually resumed, the cyanosis disappears, and the heart again beats normally for that particular case.

A slight movement, a cough, or an attempt at examination, may precipitate such a collapse. Furthermore, supposing a foreign body to have been inspired into the trachea and during a violent fit of coughing to have been expelled from the trachea into the larynx, such reflex inhibition would most likely suddenly appear. If, then, a sudden collapse takes its onset in the middle of the latter part of a severe coughing spell, it may be assumed that that foreign body had not been in the larynx at the beginning of the coughing, but it was forced into the larynx by the powerful expiratory efforts.

Extraction of the Foreign Body.—In all cases of operative procedure to extract foreign bodies from the respiratory tract it seems a judicious precaution to inject a sufficient dosage of atropine to protect the heart against the reflex inhibitory impulses through the superior laryngeal nerve, so that, if respirations should fail, the circulation will be sufficiently guarded and the operation may be completed while artificial respirations are maintained. This is especially necessary in cases in which the diagnosis has been made of lodgment in the larynx.

In cases not so diagnosticated, however, there

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is by no means a certainty that in the fits of coughing the foreign body will not be forced into the larynx before the technic can be completed. In cases in which it is practicable, a spray of cocaine or an intralaryngeal application of cocaine is of the greatest service in protecting the patient against sudden collapse. As has been amply proven, experimentally as well as clinically, the local application of cocaine upon the laryngeal mucosa, even with so weak a solution as one-half of one per cent., completely prevents the reflex inhibitory effect upon both the respiration and the heart, no matter to what extent the irritation of the larynx may be carried. In cases in which this preliminary preparation can be satisfactorily carried out, it would give an absolutely certain precaution against sudden collapse or death.

Technic of Operative Procedure.—In every case in which it is possible, local rather than general anesthesia should be employed. The principal reasons for this preference are the following: If the subject can be controlled, so that the operation may be performed under local anesthesia, there is less disturbance, less struggle, and, therefore, less opportunity for dislodging the foreign body; the patient may aid the surgeon in various ways in his attempt to recover the foreign body; and, finally, when the respiratory passages are so occluded as to require the action of extraordinary muscles of respiration it would be almost fatal to attempt a general anesthetic, because in this case the exchange of air can only be accomplished by the aid of the extraordinary muscles. A general anesthetic paralyses these extraordinary muscles of respiration, and, therefore, the burden of supplying air is thrown on the ordinary muscles of respiration, which are incapable of performing this function, and the patient necessarily dies of suffocation. The importance of recognizing these two factors in labored respiratory action, in view of the fact that one group of muscles is paralyzed by general anesthesia, cannot be over-estimated.

In the choice of local anesthesia cocaine is preferable to eucaine. The reasons for this preference are the following: Cocaine produces ischemia, while eucaine produces hyperemia. Inasmuch as hemorrhage, even slight, is of considerable significance in this operation, cocaine to that extent is preferable. The effect of cocaine is more prompt than that of eucaine, and, inasmuch as in this operation expedition is often urgently demanded, the operation may be more quickly performed under the more quickly-acting anesthetic, finally, the necessary dosage of ether, when properly used, is sufficient to endanger life. A one-tenth of one per cent. solution has been found of sufficient strength, in my experience, for inducing anesthesia. It might be well to point out here that after the skin incision has been made but few sensory nerve terminals will be encountered in the section through the subcutaneous tissue until the structures of the trachea or the larynx have been reached. It is necessary to pause here and inject a new line of the anesthetic. It is sometimes unnecessary to inject any anesthetic in the dissection between the skin and the surface of the respiratory tube. After making the incision into the respiratory tube it is advisable to apply cocaine or eucaine upon the mucosa by means of a swab or spray for a distance above and below the opening sufficient to protect the area of possible operative procedures.

It is especially important, if the larynx can be reached from the point of opening, to cocainize its interior. This having been done, sudden collapse and death are quite impossible. This statement may seem rather positive, but any one having seen the emphatic experimental results and having tried this technic clinically cannot say less. It matters not whether the operation is performed under general anesthesia or under local, this precaution should be taken inasmuch as it is true that, while general anesthesia protects the patient against pain, it does not prevent the reflex inhibition, so that cocainization serves precisely as important a purpose under general anesthesia as it does under local.

In the choice of general anesthetics the patient may be more quietly and readily reduced under chloroform than under ether, and the tendency to the secretion of mucus is less. In these respects chloroform is preferable to ether. In another very important respect ether is preferable to chloroform, namely, under chloroform anesthesia there is a decidedly greater tendency towards respiratory failure and reflex inhibitory phenomena than under ether anesthesia.

This observation on the comparative effect of chloroform and of ether is in full accord with work done by Gaskill and Shore, Leonard Hill and Waller, whose conclusions, based on a large number of experiments, show that chloroform exerts a much more toxic action upon the muscle-fibers of the heart than does ether, so that, in a given case of full chloroform anesthesia, it is probable that the heart muscle is more easily inhibited than under ether anesthesia, producing, as it does, less direct toxic action upon the heart muscle. On the whole, it would probably be best to reduce the patient to surgical anesthesia by means of chloroform, then continue with ether, unless ample precaution against collapse is made by local application of cocaine. Inasmuch as it is not the intention of this paper to deal with the general aspects of these questions, no comments will be made on other points in the technic or treatment.

It has been frequently observed that if the foreign body is not lodged high up in the respiratory tract it is likely to be found at the bifurcation or in one of the bronchi, most frequently the left. There is, it seems to me, an additional explanation for this fact aside from that usually made. It is readily demonstrable that the expiratory efforts of the respiratory apparatus are more powerful than the inspiratory. It is necessarily true that an inspiratory force exerted on

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a foreign body cannot exceed that of the atmospheric pressure rushing from an area of higher pressure to that of a lower, that is to say, rushing into the chest during the formation of a partial vacuum therein. The expiratory force is limited only to the capacity of all the extraordinary muscles of respiration, which collectively include large groups of muscles, many of which are the strongest muscles of the body.

It has been shown by experimental physiologists that the expiratory groups of muscles are more powerful than the inspiratory. It follows, then, other things remaining the same, that a foreign body subjected to the play of these two factors acting in opposite directions, must find a lodgment toward the side of the one which is weakest. Now, when the foreign body has dropped down so low as to become engaged in one of the bronchial tubes, the force of the respiratory efforts is only partially applied to this lodgment of the foreign body because of the want of resistance in the free bronchial tube; while, if the foreign body were in the trachea, the entire force of the expiratory efforts would be directed against the foreign body, and so would likely drive it onward into the larynx. On purely theoretic grounds it would seem that if in a given case of lodgment of a foreign body in one bronchial tube, after a failure of respiratory efforts to dislodge it, the free bronchial tube were closed by an obturator quickly applied, so that the whole expiratory force might be brought to bear upon both bronchial tubes alike, thereby increasing to a great extent the expulsive force exerted upon the foreign body, such additional force might occasionally dislodge the foreign body that has resisted all other efforts. This, however, is a mere theoretic suggestion, not founded upon either direct experimental or clinical evidence.

In fixing the trachea with a hook, and, indeed, in any portion of the technic, it is of importance not to drag from above downward with too much force, else there may be produced an inhibitory effect upon the respiration, and, if the force be very severe, also upon the heart. This does not so much apply to traction from the lungs upward in line of the tracheal axis. Lifting the trachea out of its bed forcibly is objectionable for the same reason that dragging down too forcibly upon the trachea should be avoided.

SOME OF THE EUROPEAN SANATORIA FOR CONSUMPTIVES, AND THE FINAL AIMS OF PHTHISIOTHERAPY.[1]

BY W. FREUDENTHAL, M.D.,
OF NEW YORK.

WHILE abroad last summer I had occasion to visit many of the German sanatoria, and some of the Swiss, and I shall limit myself to-night to describing some of the *ideas* that prevail there.

[1] Read before the Medical Association of The Greater City of New York, December 11, 1899.

Throughout Europe there is now being displayed an intense activity in the erection of sanatoria for consumptives, an activity heretofore unknown even there. This movement received a fresh impetus in Germany because of the Berlin Congress for Tuberculosis, held May 24-27, 1899, under the auspices of the Empress of Germany and some of the highest officials in that country.

Although it may not have been appropriate to discuss medical problems not at all settled by the profession in a lay society, as this Congress was, still two of the main leaders of that Congress, *viz.*, E. von Leyden and Bernhard Fränkel, deserve the greatest credit for stirring up the masses of the population to the recognition of the fact that something must be done for poor consumptives. How much can be achieved by the help of the laity has been shown in a small county of Westfalia, where, through the energy and perseverance of the "Landrath" Heydweiller, a sanatorium with one hundred beds has been built and is being managed and cared for by the county itself. Mr. Heydweiller, who, as I have said, is not a physician, kindly sent me his report on the sanatorium at Altena (Die Volksheilstätte des Kreises Altena. Paul Dalichow, Lüdenscheid), and I would recommend this booklet to every one interested in the question. He starts with the idea in view that it is the duty of the community, by erecting sanatoria, to care for consumptives in the same way as is done in general hospitals and other departments for the poor. Although his county consists of only 87,000 inhabitants, he succeeded in raising 400,000 marks, the greatest part of which was given by the community itself. When ninety beds are occupied, it is self-supporting.

There are but few other communities which have built sanatoria, as for example Berlin, at Malchow, with 96 beds, and Leipzig, with 60 beds. By far the majority, however, of these sanatoria have been built by private societies. The first one of these, in fact the first sanatorium for the poor, is that at Ruppertshain a. Taunus.

One cannot speak of the sanatoria in Germany without mentioning the oldest one, *viz.*, Brehmer's sanatorium at Görbersdorf. I personally knew Brehmer and can truly say that he deserves all the credit which he has been given, as they are his ideas which we have been following for the last twenty-five years or more. Görbersdorf is, indeed, the cradle of mountain spas, and of the hardening free-air treatment rationally combined with hydrotherapeutic and other measures.

Dr. Hermann Brehmer founded his sanatorium at Görbersdorf in 1854. After his death, in 1889, there were several capable men at the head of the institution, Professor Kobert, Dr. Felix Wolff and others; but they all left and a rumor spread last summer that there was no physician-in-chief in charge of the sanatorium. Therefore I did not visit it at all. I hear that Dr. Schlössing at present occupies that position.

In 1875 Dr. Römpler opened a sanatorium at

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Görbersdorf, which still enjoys a good reputation.

One of Brehmer's former patients and assistants, and now the leading man in phthisiotherapy in Germany, is Dettweiler. A Frankfort society started for him in 1874 the well-known sanatorium of Falkenstein a. Taunus. Dettweiler is still connected with this institution as consultant. As he is the most prominent man since the death of Dr. Brehmer, and has many pupils even in the United States, I shall deal with his sanatorium at length. I shall omit describing the institutions and surroundings, as this has been done often enough, as for example by Dr. Knopf.[1]

As you all know, Dettweiler lays the greatest stress on the rest cure in the open air, and he has halls and pavilions built with comfortable chairs in them so that the patients may lie in them for hours every day. There are several small halls which can be turned like carousals, according to the direction of the wind, and here also are comfortable chairs, or rather sofas, for each patient. Such *"liegehallen"* (reclining halls) are now to be found in almost every sanatorium in Germany.

It is claimed that this open air rest cure brings the patient more in contact with the open air, gets him hardened and accustomed to fresh air so that he is enabled to lie outdoors for hours, even in cold weather, covered with blankets and furs, thus being hardened against catching cold and the inclemencies of the weather.

Brehmer, on the contrary, did not consider it correct to have the patient breathe the fresh air in reclining halls built for that purpose. He believed rather that it was much more to their advantage to lie temporarily in their rooms with open windows, or on the balconies adjoining them, because, critically considered, a reclining hall is nothing but a common room, overcrowded with patients, from which the fourth wall is missing. I never saw the truth of this statement so strikingly verified as at Ruppertshain, which is very near Falkenstein and erected by the same Frankfort society, but for the poor only. While at Falkenstein the patients were seen lying on their chairs in different parts of the park, at Ruppertshain all had to lie in the common hall packed together as closely as possible; in fact, when I entered that hall the air was really bad. It was noticeable to the sense of smell and surely not to be inhaled by invalids. If anything, this hall, sanctioned by many of the most modern scientists, reminded me of an idealized New York sweatshop. It is just this crowding which we have to avoid in order to get good air for the patient.

And now, imagine such a hall upon a warm summer's day, protected against every little breeze, filled with patients who have to lie for hours on their chairs, and you will have the same impression that I had, *viz.*, that this was not the correct treatment for consumptives.

But, aside from the bad air, there is another factor that speaks against these halls, *i.e.*, the inactivity of the patient. There can be no doubt that for some people, who in their struggle for life have overworked themselves and overtaxed their physical strength, a rest cure of a few weeks' duration can only be beneficial. Further the rest cure has decided attraction and charm, as Dr. Felix Wolff correctly remarks, when the patient takes it as a pleasant change after having performed all the exercises prescribed for him. But for the great mass of people who do not exercise, this cure is absolutely injurious. Here I am always reminded of Weir Mitchell's rest cure. This has done good in a great many cases; but to my conviction it has done harm in a great many more, *viz.*, when exhibited in an unsuitable condition. It is the same with consumptives.

Now, we must not forget that the less muscular work one does the less albumin is lost from the system; conversely, the more work done, the more albumin lost. We know that this is most marked in climbing, less in walking, still less in sitting, and least of all in lying. When, therefore, we have a patient suffering from consumption, we should conclude, according to Professor Cornet,[1] that all movements of the muscles should be limited to the least possible degree. Besides, through the toxines, the heart is also affected and by increased labor it might more readily give out. This is all very true, but by rational work in the open air, of which I shall speak later on, the appetite is increased largely and a tonic effect produced which is beneficial to all the functions of the human system. We lose albumin, but we gain more by the increase of nourishment which the patient takes. That overstraining of the heart is of detrimental effect, has been seen often enough, and only lately Turban reported a case of a man, fifty-four years of age, who, contrary to orders, took part in a skating race on the ice until he was exhausted. Myocarditis was the consequence. But such accidents can easily be prevented if we go to work in a rational manner.

The tuberculous patient needs, as is well recognized, a change in his whole mode of living. He acquired the disease by his occupation, and he must, therefore, change his habits entirely. Take for example a bookkeeper or a tailor, who has been sitting all the year round and doing his one-sided muscular work, and let him sit in a chair again and you will only make him worse. Such people need general exercise for their muscles, and the more systematic it can be given to them, the better for them. A letter-carrier having acquired consumption would not be advised to walk all day. He might need a rest, and I would surely give him other gymnastic exercises than walking, unless that were specially indicated.

An entire change of the patient's occupation is an absolute necessity for the success of the treatment, nor can this fact be stated too frequently, nor emphasized too strongly. Only this will give him the stimulus for his nutrition, thus improving his whole organism and enhancing his diminished vitality. It is because of this that we can not insist that all patients must have a rest cure,

[1] S. A. Knopf, Pulmonary Tuberculosis, Philadelphia; 1899.

[1] Professor Cornet, Die Tuberkulose, Wien, 1899.

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or all patients must climb hills; no, this patient does this work, and that patient does just the contrary, both according to their previous habits of life, and they will both get well.

There is another point that has not been brought out so far as I know in this connection, *viz.*, the trophoneurotic condition of the consumptive. I am of the opinion, which already has been ventilated by Nauss, Strebel of Munich and others, that consumption in the first instance is a trophoneurotic affection of a general and local nature. It is only later that an invasion of the tubercle bacilli takes place. Nauss believes that the seat of this neurotic affection lies in the medulla oblongata with special implication of the vagus nuclei. Thomas J. Mays [1] of Philadelphia is convinced that phthisis is alone due to an affection of the vagi. He goes so far as to inject 7 minims of a 2½ per cent. solution of pure silver nitrate over the course of these nerves. I have not risked doing that as yet, especially because I am not convinced of the correctness of Dr. May's theories. As Strebel [2] says, only the trophic fibers are affected, while the pulmonary branches of the vagus carry motor, sensory and centripetal and centrifugal vasomotor fibers also. Strebel does not believe, and I agree with him there, that the trophic fibers of the vagus alone are affected, but that the nerve takes part in the general trophic insufficiency of the consumptive; that secondarily, perhaps, degenerations in the vagus and medulla may be seen is very plausible, but the conclusions on this question are as yet not decisive. The causes for this general trophoneurotic affection are manifold, but this is not the place to discuss them; yet it is certain that such an insufficiency exists.

I was reminded of this fact only a few weeks ago when Dr. Wm. H. Thomson, in the discussion on the initial symptoms of phthisis, described in an excellent manner the emaciation due to consumption and its differential diagnosis from other forms of emaciation. I can give here only a few of Dr. Thomson's symptoms, *viz.*: The bones are flattened in a certain way and thin; the muscles elongated and flabby; the chin is markedly protruding when the patient is seen sideways, etc. If to this general trophic paresis is added the local affection, then the soil is prepared for the specific infection with tuberculosis and a general infection soon takes place. Now, we ought to try to overcome this trophoneurosis from the very start. A change of surroundings, different and better nourishment and the open air rest cure will surely help many patients, but not the majority. A trophoneurotic patient must not only be well nourished and have plenty of fresh air, but he must be occupied as well. This enforced rest for hours every day is apt to make anybody nervous, besides having other detrimental factors. For example, to have a young man lie on a verandah for days and weeks next to a young woman can surely not have a quieting effect on the nerves. This is what the owner of one of the best private sanatoria in Switzerland told me himself, and he is a believer in the rest cure. There are more reasons which could be mentioned against the long-continued rest, which I will, however, refrain from discussing.

Now to overcome all this, we must give the patient some occupation. Here lies the difficulty. But since this has been overcome in another branch of medicine—neurology—we can overcome it here also. It was a long time before neurologists recognized the great value of systematic occupation for their patients. I need only remind you here of Möbius, Wildermuth and others. The principal fighter in this field is a layman, Mr. A. Grohmann of Zürich,[1] who has published an ingenious little book on the technic and psychology in the occupation of nervous patients. He started an institution for this purpose at Zürich, with the help of Professor Forel, and deserves the greatest credit for his unfailing energy.

The way he defines the influence on the patient of work and of having accomplished something, the good and bad influence of one patient on the other, all this ought to be read in his book and can be applied to a certain degree to our phthisical patients, too.

As the main occupation he recommends agricultural work, then gardening, carpentering, and a few more. We could, somebody might say, achieve all this by rational gymnastics, but the difference in the influence between the two on the mind of the patient is as day is to night. When the patient knows that he has to plant flowers to-day, and to-morrow he has to shovel snow, he feels that his life is not worthless. When he sees the flowers blossom which he himself has planted, he experiences a satisfaction and pride that is better than any medicine we can give him. Therefore I wish to emphasize my conviction that instead of the rest cure, *I am in favor of a working cure.* Let the patient work and feel happy; that is the first step towards improvement.

I am aware how difficult this task is but I feel confident it can be done and it must be done. I know many institutions here and abroad where the patients do not know what to do to prevent ennui. One fixes general rules; take a walk; eat a little bit more, do this and do that occasionaliy, etc. While this is advised by many physicians, the tendency of the modern view is in a different direction, *viz.*, to keep the patient busy. One of the pioneers in this respect is Dr. Turban,[2] at Davos (Switzerland). He has made it a rule to instruct the patient that he has to get up at a certain time, has to take the rest cure at such an hour, has to walk at a certain time and so on. In this way he frees the patient of his *bête noire*—the lack of something to do and his helplessness—and the consequence is, as Dr. Turban told me

[1] Thomas J. Mays; "The Hypodermic Injection of Silver Nitrate," etc. Boston Medical and Surgical Journal, Vol. 140, No. 6, 1899.
[2] H. Strebel; "Die Tuberkulose und ihre Beziehungen zum Licht," Archiv für Lichttherapie, p. 41, etc., November, 1899.

[1] A. Grohmann; Technisches und Psychologisches in der Beschäftigung von Nervenkranken. Stuttgart, 1899.
[2] K. Turban. Beiträge zur Kenntniss der Lungen-Tuberkulose, Wiesbaden, 1899.

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personally, that he who does not come to the institution a neurasthenic will certainly not become one there. He has laid down his views in his book, which shows great practical experience and knowledge. This plan is also carried out by others similarly to the method employed in Dr. Turban's sanatorium. Although this is to be regarded as a great step in advance, I must repeat that it is still not quite the correct thing to do, for even here the patient sleeps nine hours, takes his rest cure for seven hours more, which makes sixteen hours out of the twenty-four, and the remainder of the day is divided between taking his several meals, etc. The days and the weeks may pass by quickly in this way, but a great deal of time is lost which could have been used for strengthening the heart and improving the trophoneurotic condition of the patient.

The following are the rules for the day laid down by Dr. Turban for an incipient case: 7 A.M., rising; 7:30 A.M., first breakfast, milk, coffee, bread, butter, honey; 8 A.M. douche; 8:15-9:15 A.M., mountain climbing with intervals of resting; 9:45-10:30 A.M., rest cure; 10:30-11 A.M., second breakfast, 1/2 liter of milk and bread and butter; 11-12 A.M., walking on a level, with resting; 12-1 P.M., rest cure; 1-2 P.M., dinner, soup, fish, meat and vegetables, roast with salad or compot, dessert, 1/4-1/2 bottle of wine; 2-2:30 P.M., standing and sitting in the open air; 2:30-4 P.M., rest cure; 4-4:30 P.M., 1 cup of milk coffee, 1/4 liter milk with rolls; 4-30-6 P.M., walking on a level; 6-7 P.M., rest cure; 7-7:45 P.M., supper, consisting of soup, warm meat with vegetables, cold meat with butter, compot and 1/2 bottle of beer; 8-9:30 P.M., rest cure; 10 P.M., retiring.

In cold or bad weather when sitting in the open air is impossible, the time for walking is shortened and accordingly the time for repose lengthened. For patients with fever, etc., the system is changed, and especially the rest cure prolonged. Naturally all these rules are subject to modifications to meet the requirements of special cases, and it was Turban, if I am not mistaken, who first introduced this exact division of the day for each individual.

Dr. Lucius Spengler, also at Davos, gives the following rules for a strong patient without fever: 6:30 A.M., a glass of milk; 7-7:30 A.M., rising; 7:30-8 A.M., breakfast; 8-9 A.M., walking; 9-11 A.M., reclining; 11-11:30 A.M., walking; 11:30 A.M.-12:30 P.M., reclining; 12:30-1:30 P.M., dinner; 1:30-2 P.M., sitting or walking; 2-4 P.M., reclining; 4-4:30 P.M., a glass of milk; 4:30-5-30 P.M., walking; 5:30-6:30 P.M., reclining, correspondence, etc.; 6:30-7:30 P.M., supper; 7:30-8 P.M., walking; 8-9 P.M., reclining; 10 P.M., retiring.

Of course these rules also are changed according to the condition of the patient. But we see from the tables how little work the patients are allowed to do, and I must say that to rest for about seven hours a day—sitting is resting, too—and sleep in bed for nine or ten hours in addition is, to my idea, contraindicated for incipient phthisis, and the majority of these sanatoria admit only incipient cases.

Now, if we have to keep the patient occupied, the question arises, in what way? I have mentioned Mr. Grohmann's ideas regarding agriculture, gardening, etc. Nobody will doubt that this is feasible for well-to-do patients. They can buy all the implements and can obtain all the assistance and supervision necessary for such undertaking; but how about the poor? They, too, can be kept busy in many ways which are hygienic. But I go further; not only do I want them to exercise their muscles and strengthen their hearts—that alone is not sufficient—I want them to get some pecuniary return, even if this be but a trifle. In this way they should first help support the sanatorium that harbors them, and, secondly, after their discharge be able to support themselves and their families.

Take, for example, a working-man who makes a very nice living for himself and family. He falls sick, goes to his lodge doctor and is advised to stop working and be out in the open air as much as possible. He has incipient phthisis. The doctor reports him sick, and the brethren from the lodge pay him a visit. They find him enjoying a walk in the park and not looking at all sickly. "Why," they say, "we cannot pay for such a man. He is stronger than we are and ought to work." And back he goes to his cigar factory and works until more serious symptoms arise. Then his brethren believe him to be sick.

Most lodges pay a sick benefit of five dollars or six dollars a week for thirteen weeks the first year; after that the sick member has to rely on his own resources, and the consequence is that after everything of any value has been pawned, this poor man is made a pauper, and is happy when he is admitted to some general hospital to die there, a burden to the community, to himself and his family.

There are several ways to remedy this evil. We must build sanatoria in this vicinity. This surely is to be desired and I truly hope that we shall soon get them. But supposing we have one, or five, or ten sanatoria for consumptives, what does this mean in comparison to the great mass of consumptives we have year in and year out? These sanatoria will hardly be in position to house more than a small proportion of those so afflicted. The great mass will have to go about as before. Now I hold that if the State does not assist us, we ought to help ourselves, and therefore, I propose the following plan:

Take the great many lodges, that give a sick and death benefit. They pay from four dollars to six dollars per week for thirteen weeks, and if the patient dies they pay $500 or even $1000. Would it not be much better for the lodge, as well as for the patient, to give him, say $300 at once and be done with it? With this $300 the man could go to a mild climate, he could commence to work in the open air, and in many cases could survive his disease and make a living.

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I think that if a number of these lodges would combine and buy land in the West—where it can be obtained for a very small sum—with the help and supervision of some physicians, these patients would be able to raise material, such, for instance, as the hay that grows in that section called "alfalfa." When a crop of this alfalfa is once started it can be easily reaped four or five times every year. Besides this, there are numerous ways by which these invalids can occupy themselves in a satisfactory manner both hygienically and pecuniarily. There are many reasons which speak in favor of such a plan. (1) The patients would live in a mild climate and enjoy the open air all day long and during a great part of the year also all night; (2) they would have the sun during almost the whole year, and (3) they would be occupied in a manner that is conducive to their health and their material welfare.

The Southwest offers the best chances for such an undertaking; but even in our vicinity, *viz.*, the States of New York, Connecticut, Massachusetts, etc., such institutes could be established and carried on for the benefit of thousands of patients. As each tuberculous patient forms a center of infection, we ought to try to remove them from the city as soon as possible, and if we help them to get on their feet, even in a distant State, we do more charity than if we support all the hospitals in New York.

In conclusion I wish to urge the following points:

(1) All patients with incipient phthisis must be occupied in some rational muscular work. These patients are directed to walk or even climb hills and mountains; they can just as well do some work which will keep them busy. This work should be selected with a view to the financial state of the patient. (*a*) The well-to-do people can do gardening, snow shoveling, light carpentering work, *etc.* (*b*) The poorer ones ought to do, or learn how to do, some work which they can utilize afterward for their own support. Agricultural work, light farming or the others mentioned above would be suitable. (*c*) Every sanatorium should be provided with facilities to teach this as far as possible. (*d*) All this work should go under the supervision of physicians.

(2) Sanatoria for the rich and for the poor should be under one finanical management, although not necessarily in one and the same place, so that the surplus of one institution can help to support the other. This surplus could be obtained partly from the manual labor of the patients themselves.

(3) A society should be formed, if possible, by the people who are mostly affected by it, *viz.*, the lodges, in order to send the patients to a milder climate where they can work constantly in the open air, as, for example, certain parts of Arizona and New Mexico where it is easier for them to make a living in a hygienic way than in the overcrowded eastern States.

It has been stated that an advance in our knowledge of phthisis is shown by the fact that patients can get better in any part of the world, and that they should stay near their homes. Although I am convinced that for many patients a mild mountainous climate is the best, I shall not discuss that question here. I will only ask whether it is not better to send a man away to some western or other climate where he can find a healthy occupation than to let him stay in, or return to New York where he finds no work at all, or has to go back to his sweat-shop and die there.

CLINICAL MEMORANDUM.

A CLINICAL CONTRIBUTION TO THYROID THERAPY.

BY CHARLES E. HIRSH, M.D.,
OF NEW YORK.

ALTHOUGH not quite ten years have elapsed since the introduction of the thyroid gland as a therapeutic agent this treatment has been utilized in a large variety of diseases. As is usually the case with any new remedy whose status has not yet been established, it has been tried in diseases in which *a priori* it could not be expected to give successful results. It would seem rational to conclude that the greatest triumphs of thyroid therapy would be achieved in maladies dependent upon the absence of the thyroid gland or impairment of its function, such as myxedema, cretinism, and some forms of goiter. While this has proved true to a certain extent, clinical experience has demonstrated that thyroid feeding is of value in affections in which no abnormality of the thyroid gland seems to exist, such as various mental affections, certain diseases of the skin, fibroid tumors of the uterus, etc. So little is known, however, concerning the physiology of the gland that its *rationale* of action in these cases cannot be explained, although it appears probable that there is some anomaly of function of the gland in such patients, which is removed by its administration.

The conflicting testimony of authors as to the value of thyroid treatment is evidently due in large measure to the preparation employed. Some clinicians still prefer the administration of the raw thyroid; but for obvious reasons this is impracticable in the majority of instances. The numerous preparations of desiccated thyroid in the market differ greatly as regards their strength in active ingredients. It is now widely accepted that the active substance of the thyroid gland is iodothyrine which was discovered through the brilliant researches of the late Professor Baumann. This investigator found that the quantity of iodothyrine in the thyroid taken from different sheep varied within wide limits. For this reason there can be no uniformity in the various thyroid extracts, since some contain greater and others smaller quantities of active ingredient. This also explains why the effects obtained by different observers have varied so greatly. There is a further disadvantage attending the use of these thyroid products which is connected with their mode of

preparation. They all contain in combination with the active constituent a large amount of albuminous material which is liable to undergo putrefactive processes. According to a number of authorities the unpleasant and injurious effects experienced during the administration of thyroid extracts are attributable to the ptomaines generated through the decomposition of this otherwise inert albuminous material. Iodothyrine is, therefore, to be given the preference over the crude extracts in the market. As shown by the researches of Professor Chittenden and others, it is a body of definite chemical composition which embodies the physiological properties of the thyroid gland. In a paper read before the American Congress of Physicians in 1897 this author stated that in its action on goiter, iodothyrine is more effective than the gland itself, since when the gland is taken it must first undergo digestion to liberate the iodothyrine, and some may be lost by putrefactive changes in the intestine. In a recent article on the treatment of myxedema, Professor Sidney Kuh of Chicago (*Philadelphia Medical Journal*) also states that "with iodothyrine the disagreeable secondary effects were decidedly less marked than when the compressed thyroid were used, a peculiarity which has been observed by others as well as by myself in several instances."

In an article published in the *Medical Times and Register*, March 6, 1897, I reported my preliminary experiences with iodothyrine, and since then my results have been so favorable that I am led to contribute my further observations. The first case which I desire to bring to your notice is one of exophthalmic goiter. I am well aware that the results of thyroid treatment in this disease have been far from satisfactory. In fact, in certain cases, thyroid feeding intensifies the various disorders, and is postively contraindicated. Dr. E. Jeulain, however, last year contributed an essay on an affection designated by him as thyroid chlorosis, which not only represents the symptoms of ordinary chlorosis, but also those of exophthalmic goiter, such as palpitation of the heart, protrusion of the eyes, and an enlargement of the thyroid gland. In connection with these phenomena there were also symptoms of myxedema, such as lassitude and edema. That this peculiar condition was of thyroid origin was well demonstrated by the results of treatment. In the eight cases reported by the author the administration of iodothyrine produced a remarkably rapid and decided improvement. The number of red globules, and the percentage of hemoglobin were greatly increased, the size of the thyroid gland diminished, the tachycardia and the nervous symptoms relieved, and the edema disappeared. As an explanation of the gratifying success obtained from the use of iodothyrine in the case of exophthalmic goiter described below, Jeulain's observations are of much interest.

Case I.—Miss L. J., age nineteen, applied to me for treatment on April 12, 1898. The mother, who accompanied her, stated that her daughter was suffering from heart trouble and nervousness. The patient appeared fairly well nourished, weighing 127 pounds, her height being 5 feet, 4 inches. Her pulse was 110. On examining her more closely I found an enlargement of the thyroid gland and marked exophthalmos, as well as tremor of the flexor and extensor muscles of the wrist. These symptoms, she said, had been present for six months without amelioration, although she had consulted several physicians. To quote the patient's own words: "I got worse and decided to stop doctoring until I stared so and felt so wretched that I was ashamed and afraid to go out into the street." A friend advised her to go to a dispensary; but after going there twice she refused to return. She had used tincture of iodin for the goiter until the skin had peeled off and the surface was abraded. I elicited the following facts from the mother in regard to family history: Parents living; father's age, fifty-nine; mother fifty-four; both in good health; a sister twenty-three years old was also healthy. A brother who died in Honduras six years before also had the same symptoms of which the patient complained—a large tumor on his throat (goiter); the mother stated, however, that he died of asthma. I am inclined to believe his death was due to asphyxia, since dyspnea is a characterized feature of exophthalmic goiter, and as I learned he had several attacks previous. This trouble had been present for four years previous to his death. The patient had not been under treatment for the past two months. Her appetite was poor; her memory had been gradually failing, and she was inclined to be irritable and became exhausted from the slightest cause. I prescribed liquor potassi arsenitis, 3 drops, t.i.d., and also ung. hydrarg, iod. rubr., to be rubbed into the enlarged gland. As no perceptible change occurred under this treatment the arsenic was discontinued, and on April 29 I resorted to the use of iodothyrine, 5 grains, t.i.d., telling her to call in a week. May 6, the patient was feeling greatly improved, but the ointment was discontinued as the rubbing proved too painful. The gland was found to be slightly reduced in size. The dose of iodothyrine was now increased to 7 grains, t.i.d. May 14, the exophthalmos was not as prominent; the goiter was diminished in size, but her heart still annoyed her, the pulse being 106. Digitalis was given in 5 drop doses, t.i.d., and the iodothyrine continued as above. May 19 improvement was progressive; the patient had vomited after taking the last dose of digitalis, but otherwise felt better. The same observation was made on May 27. June 8, the digitalis was discontinued, and the iodothyrine increased to 10 grains. t.i.d. There was still tremor in the flexor muscles; general appearance and appetite better; pulse regular. June 12, increase of dose of iodothyrine to 15 grains, t.i.d., as patient continued to improve. June 15, she suffered from slight nausea and diarrhea. Her weight at this time was 123 pounds, and I told her to stop iodothyrine for a week, as I attributed the nausea and

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diarrhea to the increase of dosage. June 23, patient was much better in every way; the iodothyrine was resumed in doses of 5 grains, t.i.d. June 28, the exophthalmos was hardly noticeable, the gland being no longer prominent; the pulse was 100. The treatment was discontinued. July 6, improvement persisted. July 15, the dose of iodothyrine was reduced to 3 grains, as the symptoms were gradually disappearing, and as I desired to determine the minimum dose. July 23, improvement was remarkable, and the treatment was suspended for two weeks, and resumed on August 7, iodothyrine being given in doses of 3 grains, t.i.d. The patient was greatly delighted over her rapid improvement. August 18, the exophthalmos as well as the goiter was no longer perceptible. Her pulse was 92; appetite good, bowels regular. As she complained of some lassitude, however, iodothyrine was suspended for one week, and quinine muriate, t.i.d., given as a tonic. August 27, the patient stated that she felt as well as she did five years ago. In fact, all the symptoms of the exophthalmic goiter had disappeared, the pulse being 88; iodothyrine was continued in same doses. September 19, patient felt well, but had lost 16 pounds since the beginning of the treatment. The remedy was continued, a tonic also being prescribed. October 13, the recovery was found to be complete, and I stopped the iodothyrine. I did not see the patient again until February 7, 1899, when she called at my office. There had been no recurrence of any of the symptoms. April 12, the patient again came under observation, and was also seen July 16 and August 24, and her recovery had remained permanent. In this case iodothyrine was certainly given an impartial trial, and I would ascribe my success to its judicious use.

In my former article I reported several cases of obesity in which a considerable reduction in weight was brought about by the administration of iodothyrine, and since then a number of reports have appeared on this subject. Among these I would particularly mention an article by M. Weiss (*Wien. med. Wochenschrift,* No. 41, 1898) in which he concludes that the favorable effect of iodothyrine in these cases is due to the increased oxidation of the fats, and augmented secretion of urine, without impairment of the nitrogenous metabolism. In one of the cases reported there was a marked cardiac lesion, but notwithstanding this no unfavorable effects were experienced. Dr. H. C. Wood, Jr., in a recent article on the thyroid gland in obesity (*Merck's Archives,* July, 1899) remarks: "It is a well established fact that the thyroid gland is often able, even without any other treatment, to reduce the weight of either corpulent or normal individuals." While he thinks it probable that "there is under the influence of the thyroid gland an increase in the nitrogenous katabolism, not the whole nor even the greater part of the loss of weight can be accounted for in this manner." As will be noted in the following cases, there was an increase of weight after the discontinuance of the treatment, but this was not marked, and cannot be considered as an objection. As Dr. Wood justly remarks, "A moment's thought will show that this is only to be expected, for we are not treating the underlying cause, but merely the symptom of obesity. If, after we have by careful dieting and regular exercise rid a patient of his excess of fat, he returns to his previous habits of overindulgence and physical sloth, of course, he will also return to his previous bodily state. If we wish our treatment of obesity either by the thyroid or diet to be permanent we must insist upon a continuance of abstemious habits, a point on which the originator of the thyroid gland method, Yorke-Davies, lays especial stress." As regards the dosage, Dr. Wood recommends at the beginning from 7 to 15 grains of the fresh gland daily, but says that the dose may be carefully increased if necessary. As will be seen in my cases, I employed doses greatly exceeding these without the least unpleasant after-effects. This is but another proof of the greater safety of iodothyrine over other thyroid preparations.

Case II.—Mrs. A. R., aged forty-three, weight 231 pounds, height 5 feet, 3 inches, consulted me on March 3, 1898. She was the mother of four children; her previous health had been good, but lately her appetite had become poor and the bowels constipated. She could walk only a short distance without becoming exhausted, and was steadily gaining in weight. She had tried various obesity pills, salts, and antifats, but all to no purpose, as they failed to produce the slightest effect. I prescribed iodothyrine, 15 grains, t.i.d., and also extract of cascara sagrada, 15 drops, morning and night. March 9, her weight was 239 pounds; March 16, 228; March 25, 221; April 3, 220. April 11, she felt nauseated, and hence the dose of iodothyrine was reduced to 10 grains. As the bowels were regular the cascara sagrada was discontinued; her weight at that time was 217 pounds. I informed her that to reduce her weight so rapidly without exercise would be dangerous, as she had lost 14 pounds in about five and one-half weeks. In April 18 her weight was 212 pounds; April 26, 210; May 3, 209; May 11, 207 1/2; May 19, 204; May 28, 201. She was ordered to discontinue the iodothyrine for two weeks. June 11 treatment was resumed; her weight up to that time being 202 1/2 pounds. On June 18 it had fallen to 198 pounds, a total loss of 33 pounds in less than 12 weeks of actual treatment. I told her that she had reduced sufficiently, and ordered her to stop all treatment. On August 7 she called again and told me that she had taken plenty of exercise, and had not gained a pound in weight. She was weighed on the same scale, and wore a light wrapper each time. She had experienced no discomfort, except slight nausea on April 11.

Case III.—Miss Mary B., age thirty-five, height 5 feet, 4 1/2 inches, weight 214 pounds, came under treatment March 15, 1899. For the past three years she had been steadily gaining in weight, although in perfect health; the appetite

was fair and the bowels regular. Iodothyrine was administered in 10 grain doses, t.i.d. March 21 there was no change in weight. March 29, weight 211 pounds; April 6, 210; April 15, 207; April 23, 204; April 30, 202; May 9, 196. At this time she had slight diarrhea, for which I prescribed mist. cretæ and salol. May 12, as diarrhea continued iodothyrine was stopped and hydrarg. chlorid. mite., 3 grains, given, followed by mist. cretæ. May 15, the diarrhea had ceased, and iodothyrine was resumed in doses of 3 grains, t.i.d. May 22, weight 189 pounds; May 30, 187; June 6, 187. The dose of iodothyrine was increased to 5 grains. June 14, weight 184 1/2 pounds; June 24, 182. Treatment was now discontinued for two weeks. July 10 the patient desired to resume treatment. July 10 the patient given in 3 grain doses, but as I was very busy I omitted to ascertain her weight on that date. July 17, weight 176 pounds; July 26, 174. I advised her to discontinue the treatment, as I thought she had reduced enough, and her health was perfect. August 16 she called at my request; her weight was then 176 pounds; September 26, 175; October 20, 175. As can be readily seen in this case the treatment has been most successful, as I was able to readily control any increase of weight, and effect a reduction of thirty-nine pounds in four months of actual treatment.

Case IV.—Mr. S. O., age thirty-seven, married, electrician, consulted me May 12, 1899; his weight was 248 pounds, height 5 feet 7 inches. He complained of difficulty in breathing, and can not follow his business with any comfort. He had tried riding a bicycle, and also gymnastics and walking, but without any benefit. His heart was normal, and he experienced discomfort only when ascending and descending the stairs. I prescribed iodothyrine 15 grains, t.i.d. May 18 his weight was 247 pounds; May 25, 240; May 30, 241, a gain of one pound. I increased the dose to 20 grains, t.i.d. June 11 his weight was 236 pounds, but I advised him to stop the treatment for two weeks. July 24, weight 229 pounds; iodothyrine was resumed in doses of 20 grains, t.i.d. August 6, weight 217 pounds; August 23, 211; August 25, patient had a headache and slight diarrhea, and, therefore, the use of iodothyrine was suspended, but was resumed September 5 in doses of 15 grains. His weight at that time was 209 pounds; September 19, 207; September 29, 201; September 30, treatment was discontinued, as the patient had a recurrence of the diarrhea, his weight then being 200 pounds. October 15 his weight was 202 pounds, and the administration of iodothyrine, 15 grains, t.i.d., was resumed. October 26 his weight was 197 1/2 pounds; October 30, 194. The treatment was stopped, although the patient was willing to continue it. He has since reported every week, and has gained two pounds in three weeks, a loss of fifty-four pounds in about five months of actual treatment. The treatment was continued long enough, however, to demonstrate its specific influence without any harmful results.

MEDICAL PROGRESS.

American Folk-Medicine.—In a recent communication R. H. True (*Pharm. Review*, Feb., 1900) cites a few interesting notes on folk-lore medicine of the United States. Some of these empiricisms are as follows: "Swallowing a live head-louse, without the knowledge of the patient, will cure the jaundice." "Biting into a live black snake will insure sound teeth for the one who bites it" is a generally spread superstition. "A sty may be cured by rubbing it with a black cat's tail" comes from Alabama. A unique prescription is current in Rhode Island, thus: "If you have asthma, save all of the nail-parings of your hands and feet for a year. At the end of that time find an ash-tree of the same age as yourself, bore a hole in it, put in the parings and plug up the hole." The following cures for toothache are given: "To bite into a living black-snake will cure the toothache," and "picking the teeth with a splinter from a tree struck by lightning will prevent toothache." The old German folk-lore belief that "thoroughwort" will act as an emetic or as a cathartic, according to whether the plant is brewed with the "blows up or blows down," is closely matched by the Ohio tradition that tea made from elder bark removed by scraping upward will act as an emetic, whereas if the bark be scraped downward the tea will have cathartic properties.

Day-terrors in Children.—The occurrence of day-terrors in children has received but little attention. Much has been written of night-terrors, as they are common, but English writers, at least, have given but little attention to the much less common attacks which occur during the waking moments. G. F. Still (*Lancet*, Feb. 3, 1900) reports five cases of this interesting condition, all in children under the age of six years. In most of the cases, the child without warning begins to scream, has a terrified look and runs to his mother or attendant, hiding his face in the folds of her garment, and gives every evidence of suffering from great fear. Hallucinations and delusions seem to be absent. In literature cases are reported which have occurred in older children. In some of these distinct evidences of visual and auditory hallucinations were obtainable. The relation to night-terrors is probably very close. In four of the cases reported night-terrors were, or had been, present, and it would seem that the day attacks may be associated with them or replace them; but the two conditions are probably very different in etiology, although the etiology of night-terrors is far from being known. A nervous, excitable temperament is nearly always a factor in the etiology. Rheumatism, either in the child or in the parents, may play some rôle. In most of these children minor functional neuroses are evident. Habit spasms, nocturnal enuresis, recurring headaches, nervous diarrhea are frequent with them. In a large number valvular disease is present. Some observers have claimed

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that night-terrors, and more particularly, day-terrors, are epileptic in their nature, and that the condition is to be considered as a form of *petit-mal*. This is not the view held by the author. He believes that, inasmuch as these patients do not show any tendency to attacks of major epilepsy and, furthermore, are so readily relieved of their symptoms by appropriate treatment, that the relation to epilepsy must be but very slight, if any relationship at all exists. In some cases there seems but a very narrow line existing between day-terrors and some forms of insanity. The author's summary of impressions, for thus far in the study of this affection it is only possible to have impressions, is that it is a paroxysmal psychoneurosis allied to, but not identical with, epilepsy on the one hand and hysteria and insanity on the other. The prognosis is good. The most important part of treatment is the removal of any exciting cause. Since a chronic intestinal catarrh is apt to be present, it should be relieved. Potatoes, pastry and the sugars are to be excluded from the diet. Thread-worms or other intestinal parasite must be removed. Potassium citrate and the bromides are useful and a regular mode of life with healthful distractions and non-exciting sports will usually aid materially in the treatment.

Submucous Fibroid: Uterine Section.—J. Braithwaite (*Brit. Med. Jour.*, Feb. 3, 1900) successfully removed a large submucous fibroid at the fundus by doing practically a Cesarian section. After opening the abdomen an elastic ligature was passed about the cervix, and section of the uterine wall made down to the fibroid, which was easily removed. The cavity of the uterus was opened so a drain was passed through the cervix after removal of the ligature. The wound was closed as in Cesarian section, and primary union resulted.

Renal Papillectomy.—E. H. Fenwick (*Brit. Med. Jour.*, Feb. 3, 1900) has been studying painless unilateral renal hematuria in young adults for years to get at its etiology. Kidneys which have been bleeding freely and persistently show no lesion on the post-mortem table nor under the microscope. In a number of cases he has incised the kidney through the cortex, inserted his finger and discovered nothing abnormal, yet the bleedings ceased. He believes the failure to discover the cause of hemorrhage must be due to faulty technic. In his last two cases, he has opened the renal pelvis, inserted an electric light, and in each case has been rewarded by finding one papilla markedly congested, somewhat swollen, and bleeding freely. This papilla was removed and the wound closed. Hematuria never recurred. Examination of the specimen, which resembled a vellous growth, showed it to consist of markedly varicose, congested veins, with extravasation of blood and an increase in cellular stroma. This condition cannot be made out by finger exploration.

Improved Suture for Fractured Patella.—R. G. Pattison (*Brit. Med. Jour.*, Feb. 3, 1900) thinks the causes of bad results in suturing fractured patellæ are as follows: (1) The adoption of a subcutaneous method in which no effort is made to relieve the tension in the joint due to extravasation of blood and serum and in which, therefore, the bony surfaces cannot be accurately apposed. (2) The use of unsuitable sutures and a faulty technic, leading to joint infection, or the cutting out of the sutures, and consequent loss of apposition. His method is to make a U-shaped incision, crossing the patella ligament well below the lower fragment. The periosteum is reflected from the front of each fragment and the joint cavity washed free of clots by sterile water. A hole is drilled obliquely, so as not to pass through the posterior surface, through each fragment in the median line. A specially designed semi-cylindrical, soft silver wire is then passed through, so that the broad, flattened surface, which is least apt to "cut through the bone," sustains the tension later. The joint is now again flushed out, the fractured surface accurately apposed, the silver wire tightened, fastened, and flattened out. The periosteum is now sutured over the silver wire and line of fracture and the skin closed. He begins passive motion about the fourteenth day and soon has the patient up on crutches. This is the ideal treatment of fractured patellæ in the young and healthy. Special emphasis is put upon the following points: (1) Delaying operation a few days till the more acute joint symptoms subside; (2) thorough cleansing of the joint cavity and fracture surfaces; (3) the use of a single sterilized suture so shaped as not to cut the bone, and not to form a large irritating knot when it is fastened; (4) the elevation of the periosteum and its subsequent suture over the embedded wire which help to prevent infection and irritation; (5) the early commencement of passive motion, thus shortening the period of disability.

How Malaria is Transmitted.—The belief that mosquitoes bear a causal relation to malaria was expressed by Roman writers two thousand years ago, but it has only been in recent years that any attempt has been made to prove the truth of this suggestion. In the *Medical Record* (Feb. 17, 1900) I. P. Lyons has reviewed the literature upon this subject and gives a *résumé* of the investigations made, especially those by Grassi, Bignami, Bastianelli and Dionisi. The ordinary mosquito (Culex) was found to be harmless, but several species of the Anopheles have been successfully inoculated with the tertian and estivo-autumnal parasites, the development of these parasites in the mosquito carefully watched, and the final return of the spores to a human being with the subsequent development of the disease has been successfully accomplished. Practically every step has been followed with the tertian and estivo-autumnal parasites, and the quartan parasite has been followed up to the coccidial stage in mosquitoes, although it has not yet been made to

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return to its human host by the bite of mosquitoes. It is thoroughly believed, although not entirely proven, that malarial infection is produced only by the bite of mosquitoes. The harmless Culex lays its eggs on the surface of artificial collections of water while the Anopheles seems to prefer natural bodies of water on the outskirts of towns and in rural districts. The extermination methods must deal with the larvæ and these can be successfully combated by drainage of the pools, by the introduction of fish, or by scattering petroleum or other chemicals over the surface. It is further urged that any case of malaria may be a menace to the public health provided the Anopheles be also found in the same locality and, hence, it follows that every case should be carefully isolated by mosquito netting or otherwise.

Tannopin.—C. Tittel (*Therap. Monatshft.*, Feb., 1900) has obtained some excellent results in intestinal disease of children with tannopin, and considers it decidedly superior to the other recent astringents. The drug, which is a condensation product of tannin and urotropin, forms a dark-brown insoluble powder which in the small intestine splits into its two components. It does this very slowly so that its action is continued in the large intestines, as can be seen by the increased consistency of the stools and the disappearance of the mucus. Since it contains urotropin, it is markedly antiseptic. In mild cases recovery results in from two to three days. It may be added to cod-liver oil if this causes loose movements.

Therapeutics of Splenic Extract.—The use of extracts of animal organs in the treatment of disease will, no doubt, furnish a wide field for valuable discoveries in the future, and give to the medical profession specific remedies for many diseases which are now treated symptomatically. C. R. Carpenter (*Med. Record*, Feb. 17, 1900) has been experimenting with a few cases of typhoid fever by using the extract from the spleen, and explains very satisfactorily the theory upon which he bases his faith in its value. Most acute infections and especially pyogenic diseases cause a leucocytosis which varies largely with the severity of the disease and with the resisting power of the patient's system. In other words, the leucocytes act as defenders against the poisons of disease, but may have assistance from undetermined antitoxic principles in the blood. In typhoid fever there is usually a diminution in the number of leucocytes except early in the disease and when complications occur. This condition is explained by the supposition that the spleen is the chief generator of leucocytes and being one of the organs early involved in typhoid fever, its function is interfered with or destroyed. It is further maintained that the chief benefit derived from the use of the cold-bath treatment is due to the increase of leucocytes which it causes. The mere reduction of temperature cannot explain all the beneficial results which are obtained. Experimentation has shown that the extract of the spleen produces a leucocytosis, and, since it is that organ in particular which is involved in typhoid fever, the deficiency is supposed to be supplied by the administration of its extract, just as the extract of thyroid performs the function of a diseased thyroid gland. The cases upon which the extract of the spleen have been tried were few in number, but most favorable results were obtained and it is believed to be a specific in the disease, aborting its course just as the antitoxin of diphtheria does. It is given in doses of five grains every three hours for the first twenty-four hours, at the end of which time the temperature usually falls one or two degrees. The extract is then given in doses of five grains three times a day. When an anemia is present a hematinic is essential.

Drugs in Obesity.—While the dietetic and hygienic plans give the best results in excessive deposits of fat, many drugs have been recommended. H. Kisch (*Therap. Monatshft.*, Feb. 1900) finds that, while an occasional purge is beneficial in many cases, especially if with hyperemia of the abdominal organs, the constant use of drastics will lead to diminished absorption of food from the bowels and hence actual malnutrition. Alkalies likewise must not be used for any length of time. Vinegar is believed by many to cause increased fat dissolution, but what really results with this, as well as with iodine and the iodides, is a cachexia from chronic poisoning. The latter are only indicated in advanced cases where a rapid reduction is desired, but to the external use of iodine there can never be any objection. Pilocarpine, which like other diaphoretics would increase the heat-radiation from the skin and thus stimulate fat-metabolism, is to be used with great caution where a fatty heart is present; steam-baths act similarly, but also require a healthy heart and arteries. Recently the virtues of thyroid extract have been voiced by many, but it is inconstant in action and fatigue, diminished muscular power, glycosuria and other symptoms have appeared, since it possesses no selective action on fat but attacks proteids as well. If given, the patient is to be carefully watched and the dose must be small.

Treatment of Obesity.—In a recent number of *La Presse Médical* Professor Herman Cohn of Breslau describes Dr. Schweninger's obesity-cure as administered in an establishment in Baden-Baden. The method was decidedly strange, but the results were marvelous, some patients having lost 20 pounds in five weeks, 50 pounds after eight weeks, and, in one case 95 pounds in nine months. All the concomitant symptoms of obesity also improved under this treatment, which consisted of (1) massage of the abdomen, (2) hot baths, and (3) diet. Massage was performed three times a day, before eating, and each treatment lasted fifteen minutes. The patient lies on his back with legs and thighs flexed, and the physician begins by tapping, at first lightly, then with greater force, upon the epigastric region, until he

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sinks his two fists as deeply as possible into the abdomen of the patient. During this procedure the patient is supposed to breathe deeply and regularly in order to exercise his diaphragm. In fact, at first the patient can only take five deep respirations, because of the pain, but later he can take twenty deep respirations. The operator now grasps "large pieces" of the abdominal walls in his hands and squeezes them as hard as possible in order to crush the subcutaneous fat lobules. The patient's abdomen is soon covered with bruises. The pain during this "gentle" procedure is such that groans and tears are elicited. And last, but not least, the physician now gets upon the patient and sinks his knees as deeply as possible into his abdomen—especially in the epigastrium —while the poor patient tries to take at first five and later a greater number of deep respirations. That any one could survive this treatment once seems wonderful, but to go through it three times a day! The patients after a while really got used to it, but being a little tired after this massage they usually remained resting on the couch for some time. The hot baths were given in instalments. The first day the arms had a bath, the second day the legs, the third day the hips, the fourth day the arms again, and so on in the same order during all the treatment. Entire baths are never given. The temperature of the baths is at first 99.5° F., gradually increased up to 122° F. The baths last for twenty minutes each. The fatigue following these baths causes the patient to sleep for some time. The diet is peculiar. The dishes and plates are of doll's sizes. The glasses barely hold eleven drams of liquid, and even the knives, forks, and spoons are small. The meals are served every three hours, the patients eating in their rooms, and it does not take long to eat a meal. Everything is served in minute portions. The usual diet limitations are observed. The patient may get for the first breakfast a small slice of cheese, or ten prunes, or one egg, or a plate of turnips, or carrots, or a plate of clotted milk, or a slice of ham. For the second breakfast there is a little meat, or an egg, or a vegetable. At dinner a small slice of roast meat, or a slice of chicken or calf's-liver. The other meals are on the same plan. The patients do not drink with the meals, but half an hour after they are allowed to drink one of the little glasses of Sprudel or Gerolstein water. The total quantity of water allowed each patient a day is about one-half a liter. If they get thirsty a pear or a prune must satisfy them.

Treatment of Phthisis Pulmonis.—A detailed and extended review of the treatment of pulmonary tuberculosis is made by G. A. Evans (*N. Y. Med. Jour.*, Feb. 17, 1900) who has had a wide and valuable experience. In the incipient cases he advises the hygienic and climatic methods as the most serviceable, and claims that the western slope of the Appalachian system from Maine to Alabama is the region which affords the best results. The proper treatment for cases after necrosis of tuberculous tissue has begun, and after evidences of local sepsis and septicemia have appeared, is drainage, to stop the absorption of septic agents and above all to limit or prevent self-infection. The only method of drainage is by expectoration, but the use of internal remedies merely acts by increasing the flow of mucus and as the seat of disease is frequently on the distal side of the mucous glands in the smaller bronchioles and alveoli this method is only partially efficacious. Clinical experience has shown that it is impossible to inspire compressed air where an albuminoid fluid is present in the air passages without causing its expectoration, and that the bronchial tubes and pulmonary alveoli which are at all permeable by atmospheric air are much more so by compressed air. The combination of an antiseptic with the compressed air has given excellent results since the local application of a germicide is aided by the marked increased drainage by expectoration. Twenty-five to thirty-five per cent. solutions of phenol in equal parts of glycerine and water are used in the form of a fine spray for thirty minutes every day under a pressure of about one twenty-fifth of an atmosphere. When cases are not too far advanced complete recovery is claimed.

Treatment of Lobar Pneumonia.—H. Eichhorst (*Therap. Monatshft.*, Feb., 1900) thinks that venesection is done too rarely at the present day in pneumonia and praises its life-saving effect in complicating pulmonary edema. Digitalis should only be employed when the heart demands it and the practice, to begin every treatment with this drug, is to be severely criticised. In many young and strong patients, all medicinal treatment is unnecessary. The rules for alcohol are much the same as for digitalis; it is especially useful in the old and in drinkers and the latter drug often works better if preceded by alcohol. For quick stimulation of the heart caffeine hypodermically is often preferable to digitalis, while injections of camphor are to be resorted to in the more serious cardiac disturbances. Narcotics are to be avoided since cough and expectoration may be suppressed and the bronchi thus become filled; in cases with delirium and restlessness morphine may, however, be demanded. Antipyretic treatment by means of phenacetine and baths is indicated where high temperatures are badly borne; in other cases it is unnecessary. All so-called specifics have failed to prove their reputed value and blood serumtherapy has in most cases disappointed.

Oliver's Hemocytometer.—In the *Boston Medical and Surgical Journal* (Feb. 15, 1900) David D. Scannell describes the principle upon which Oliver's hemocytometer is based, the apparatus required in the process of the examination and the technic of such observation, and also gives the results in 27 cases in comparison with those obtained by the Thoma-Zeiss counter in the same cases. The time required for the whole process by Oliver's hemocytometer is only about ten or

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fifteen minutes and is a gain over the half-hour usually expended in the preparation and count when the Thoma-Zeiss apparatus is used. The apparatus required for such observation consists of (1) a flattened tube, 15 mm. in the long diameter and 5 mm. in the short diameter, graduated so that in a scale of 12 centimeters, 100 per cent. being equal to 5,000,000 corpuscles per cubic millimeter, the divisions represent two per cent. each; (2) a capillary pipette with a capacity of 10 cubic millimeters and with a lumen large enough to clean easily; (3) a mixing pipette, or ordinary medicine dropper, provided with a rubber nozzle which fits over the small end of the capillary pipette; (4) a small-sized wax candle; (5) a fixing solution, preferably Hayem's. This solution consists of hydrarg. chlorid. corrosiv., 0.5 gm.; sod. chlor., 1.0 gm.; sod. sulph., 5.0 gm.; aq. dest., 200 c.c. and (*a*) is cleanly; (*b*) does not affect the corpuscles as much as other solutions; (*c*) there is no varitaion in the reading even after twelve hours, so that all of the examination need not be made at once. The mixing pipette being filled with Hayem's solution, the capillary pipette is filled with blood, the rubber nozzle of the mixing pipette quickly fitted over the blunt end of the capillary pipette and the 10 cubic millimeters of blood thoroughly washed into the flattened tube by the compression of the rubber bulb of the dropper. The filling of the capillary pipette with blood and the washing of the blood into the flattened tube should be done quickly lest the blood coagulate in the capillary tube. After the blood is washed out of the capillary tube, detach it from the medicine dropper and make further additions of the fixing fluid from the latter. The contents of the flattened tube are gently but thoroughly mixed after each addition of the fixing solution. The observation is made in a dark room with the candle ten feet away from the observer and the tube held close to the eye. As the fixing fluid is gradually added, drop by drop, the observer must watch carefully for the first appearance of the transverse line of light, so as not to add any solution after the transverse line becomes complete. In 27 cases examined by both the Thoma-Zeiss and Oliver's hemocytometric methods there was a marked similarity in the results, the average difference being only 35,000, or less then one per cent. In successive hemocytometric observations in the same case within a short interval the two readings were identical.

Bacteria and Diabetes Treatment.—Some time ago the bacterial origin of diabetes mellitus was suggested and the use of antiseptics such as bichloride of mercury and auri et sodii chloridum advocated. J. P. Sheridan (*N. Y. Med. Jour.*, Feb. 17, 1900) claims that these remedies do not diminish the glycosuria, but tend to reduce the oxidizing power of the red blood-cells, thereby producing rapid emaciation. Working on the theory of bacterial origin, however, he has used a combination of bromide of gold with bromide of arsenic, called arsenauro, with most favorable results in four cases which he reports. The drug should be pushed to the physiological limit which is shown by the development of symptoms of arsenical poisoning.

The Lymphatic Diathesis.—Lemoine (*Le Nord Médical*, Feb. 1, 1900) says that changes in the blood, the bone-marrow, the spleen, the lymphatic ganglia, and the lymphoid tissues characterize this condition, any or all of these being diseased. The general symptoms are anemia, debility, dyspnea, and in the late stages, emaciation with hemorrhage and edema. For treatment, hygienic measures are indicated, such as fresh air, short and frequent walks, nourishing food, especially milk, eggs, fat and starchy materials; laxatives to promote intestinal secretions, with bitters and tonics, inhalations of oxygen, and massage, frictions, and cold douches in the region of the spleen. Among the drugs in common use ferric chloride, protoxalate of iron, quinine, and cod-liver oil are the best as tonics. Iodides may be given in scrofulous conditions and will diminish the adenitis, but they tend to increase the wasting, the epistaxis, and the visceral complications. Phosphorus and mercury are useless or harmful. Ergotine or hydrastis or perchloride of iron may be used for the hemorrhagic tendency, and quinine if malaria coexists. Bone-marrow promises well, but has been little tried. Universal experience indicates that the best general remedy is arsenic. Of this, Fowler's solution may be given in large doses internally, combined with laudanum to prevent disagreeable effects; or, if the diluted Fowler's solution is injected interstitially into the affected gland or into the spleen, it not only affects the whole system, but causes a rapid and marked atrophy of the tissues at the seat of the injection. Mineral waters and baths may aid in the general treatment, and in cases of isolated lymphadenoma the disease may be checked by early surgical removal. Surgical treatment, however, has met with but little success.

Origin of Toxins in Burns.—To determine the influence of the skin in producing the poisons which lead to a fatal issue in burns, E. Scholz (*Münch. med. Woch.*, Jan. 30, 1900) conducted two sets of experiments, in the first of which large scalds of the peritoneum were compared in effects with similar traumatisms to the skin. The animals with the peritoneal wounds showed more severe symptoms, hence it is fair to assume that the skin is not the only source of the toxins. The second series contrasted the results following burns on hyperemic and anemic skin; in the former case the rabbits died with convulsions, while in the latter no ill results were noted. It is thus concluded that the blood itself, rather than the tissues, is the seat of the chemical change.

Antitoxin for Diphtheria Immunizing.—The New York Board of Health reports show that there were about 700 more cases of diphtheria during 1899 than during 1898 and that the death-rate was 13.1 against 12.2 per cent. in 1898. J.

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S. Billings (*N. Y. Med. Jour.*, Feb. 17, 1900) draws attention to the fact that although the antitoxin treatment of diphtheria acts as a specific and effective curative remedy, it cannot bring about any marked decrease in the number of cases since the disease spreads rapidly and easily from person to person through many channels, and perfect isolation is almost impossible, especially among the poorer classes. He urges, however, that the prophylactic use of the antitoxin will furnish an effective means of lessening the number of cases and points out that there were over 600 less individuals immunized during 1899 than during 1898. In over a thousand cases immunized only six contracted the disease, which was in every instance mild in form. It has been found that 150 units is not always successful and that it is much better to use 300 units in children and 500 units in adults to immunize against the disease. Furthermore the reactionary symptoms are not so great when the larger dose is used.

Fleas and the Plague.—The daily as well as the medical press, taking its cue from Simond's article on the transmission of the plague in the *Annales de l'Institut Pasteur*, 1898, have regarded the flea as a probable agent in the spread of the plague. The fleas which live on infected rats and mice are supposed to bite human beings and thus infect them. Bruno Galli-Valerio (*Centralblatt f. Bakteriologie*, Jan. 6, 1900) disputes Simond's conclusions on the following grounds. The flea that bites man (pulex irritans) has an ovoid body, is reddish-brown in color and has no characteristic comb-like structure on the head and prothorax. The flea of rats (typhlopsylla musculi) has a thin body, is yellow and has spines along the head and comb-like structures on the thorax. Other species of flea are found on the mouse. The important feature is that none of these fleas bite man and Galli-Valerio, notwithstanding the fact that he placed fleas on his body—under watch-crystals—was unable to make them bite him. He therefore concludes that this means of transmission is not probable. He does not, however, give us any data as to what a hungry rat-flea may do under unknown circumstances.

Curability of Epilepsy.—That the usual definition of epilepsy, as a "disease characterized by tonic and clonic spasms and followed by a loss of consciousness," does not describe the conditions with scientific accuracy in a large percentage of cases is brought out by W. P. Spratling, Medical Superintendent of Craig Colony (*Medicine*, Feb., 1900) who from a wide experience shows that many patients have tonic convulsions only others, clonic convulsions; while a large number have very incomplete loss of consciousness. Epilepsy in its initial stages he divides into two groups, the *false*, which includes such cases as may be traced to a true physical cause, recent in origin, and the *true*, which includes cases which have congenital or acquired organic defect or deficiency of the brain. The former group includes many cases which are readily cured and form the basis of the claims of eye specialists, gynecologists and others, who cure some cases by trifling operations. The second group demand much attention and a serious prognosis is always present. Spratling is emphatic in his disapproval of the use of bromides for all classes, especially in children. For the pronounced epileptic Colony treatment is the best form. This treatment, as outlined, is as follows: (1) The colonizing of the patient means that he is placed under such restrictions that at all times entire control of his acts is secured. (2) He is treated as an individual at first, along broad hygienic lines, for many come in poor general health, and the first demand is that they be built up, reconstructed physically. (3) To do this a diversity of means is employed. Medicines, systematic occupation, gymnastic exercises, baths, special feeding, and the use of such moral agencies as may be essential. (4) All the while he is being studied for aura; for the presence in the blood, urine, or other secretions of noxious substances that may cause or help to cause the disease. (5) He must eat only such food and only in the manner prescribed for him. This is regarded as most essential. (6) He must not overeat, for by tradition founded on fact he is apt to gormandize. (7) He is not permitted to use alcoholic stimulants in any form or to any extent. Tea or coffee, if properly made, may be taken in moderation. Tobacco may be used in moderation. (8) At the Colony every epileptic received is made to undergo a complete change of life. If he was of sedentary habits he is put out in the fields, under the sun and in the air—not abruptly, but gradually. His entire life, as far as can be, is thrown into new channels. If, when received, he is feeble, as many of them are who have suffered from long neglect, he is put into the hospital, fed on light nutritious foods, and every effort made to build him up. (9) If it is seen at any time that he fails easily under any mental strain, such as study or close reading, he is made to abandon such pursuits and use his body only. (10) If his body is big and strong and he is weak intellectually, then the opposite course is pursued, the object always being the coequal development of the mind and body—no vitiation of one at the expense of the other. (11) If he has any natural bent or inclination in the way of study or work, it is recognized and encouraged, for mental occupation in the treatment of epileptics is an important factor. Due heed to the foregoing over a sufficient time has cured from six to eight per cent. of all cases that came to the Craig Colony.

For Menstrual Pains.—*Gazette hebdomaire de Paris* gives the following formula:

℞ Codein.....gr. ¾
Chloral.....gr. xv
Ammonium bromide.....gr. xv
Aquæ camphoræ.....℥i.
M. To take in two doses.

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SATURDAY, FEBRUARY 24, 1900.

DIET IN CONSUMPTION.

PATIENTS who have been successfully treated in German and Swiss sanatoria insist especially upon the quantities of food that they found themselves able to consume under the direction of their physicians. At Nordrach, for instance, the rule is for the patient to eat twice as much as he has previously been accustomed to eat, and patients very soon fail to find it the task they anticipated.

Abundant food is a very serious consideration; for the weight of the patient is an important element in his constitutional resistive vitality. Some years ago the New York Mutual Life Insurance Company showed from mortuary statistics that "of persons with untainted family histories twice as many died among those who were under weight with respect to their height as those above the average weight; that family history influenced the consumption death-rate far less than the personal condition (referring especially to the normal weight), and that it is, therefore, a far less valuable indication of an underlying phthisical predisposition."

All experience coincides in proclaiming the vital importance of a gain in weight for patients suffering from consumption. Practically all the lauded specifics for the disease have been such as acted as tonics and increased the appetite. The influence of suggestion in all cases of tuberculosis seems undoubtedly due to this tonic effect of renewed hope upon the patient. The great specific concealed behind all the others that have been used, and making them all for a time seem of value, is the increased consumption and assimilation of food that they have induced. It is this that must constitute the groundwork of any successful method of treating consumption, and just as soon as the general nutrition fails to improve, any remedy or method of treatment will inevitably fail.

THE PATHOLOGY OF INSANITY.

THE brain has been justly regarded as a most mysterious, obscure and Sphynx-like region in its manifestation of disease. Partly because the lesions accompanying mental diseases are so slight, and partly owing to the complexity of the nervous system of man our knowledge of the pathology of insanity is in a very crude state in comparison with that of other diseases. Insane asylums are full of instructive material, but hospital physicians, too busily occupied with the requirements of routine administration, have unfortunately let slip their opportunities to enlarge this sphere of knowledge.

New York led the way in revolutionizing this condition, by organizing a Pathological Institute for the insane asylums of the State, where pathologic material could be worked up by experts and correlated with the clinical experiences of the physician attending the cases. Whether this same need of such an institute had been more slowly finding its way to concrete expression in London, or whether the London County Asylums caught the idea from us, and immediately put it into action, we cannot say.

The first volume of the "Archives of Neurology" from the Pathological Laboratory of the London County Asylums has just appeared, and it is with a feeling of pleasure that we realize that the men in London have accomplished a much desired work. They have "ushered in an era of accelerated progress in the scientific unraveling of the maze of mental pathology."

General paresis has received the greatest amount of attention during the past year and the potent influence of syphilis has been clearly brought out by the investigations. Some twenty-four articles on allied subjects have been worked

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out by Dr. Mott and his staff of assistants and physicians to whom the privileges of the laboratory have been extended. No narrow spirit of investigation has prevailed. Statistical, historical, racial and geographical considerations have been studied in connection with the clinical and pathological questions. The "Archives of Neurology" contains the work of the technical micropscopist, the chemist, the biologist and the practising physician, and counts research a progressive, comprehensive study, not a mere "microscoping" and "test-tubing."

If the yearly output of work equals that of the past twelve months, alienists will look to the Archives for brilliant results. The only regret we can express in connection with its appearance is that the name chosen is almost identical with that of the publication of the New York State Pathological Institute.

ANTIVIVISECTION ONCE MORE.

PROMINENT antivisectionists gave due warning years ago that they hoped to succeed by keeping unremittingly at it in securing the utter abolition of animal experimentation. True to their promise the bill for the regulation of experiments upon animals in the District of Columbia comes up at every session of Congress. This law, it is confessed by the antivivisectionists themselves, is meant to be only the entering wedge for legislation along similar lines throughout the country. The prestige of a legislative victory at the national capital would carry great moral weight with the State legislatures. Moreover, the Government laboratories, most of them, are situated in the District of Columbia and the blow is especially aimed at them, since, so long as animal experimentation is carried on directly under authority from the Government, the opponents of experiments upon animals cannot hope to prevent this method of investigation at other places.

The gauntlet has been definitely thrown down. The battle for the right of experimentation on animals is on. Each succeeding session of Congress sees the struggle renewed. If the medical profession of the country would not see invaluable opportunities for the investigation of disease in this country ruthlessly snatched away because of irrational fanaticism, it must not tire of this ever-recurring contest.

We venture to say that in recent years the cause of antivivisection has gained more adherents than has the principle of animal experimentation. This is mainly due to the fact that a most persistent and untiring propaganda of the doctrines of the antivivisectionists has been made. Fanaticism has a special attraction for our generation. It is only necessary to recall in this connection how many supposedly intelligent persons are carried away by the shallow absurdities of Christian Science. There are any number of people constantly on the lookout for some new fad. When their latest hobby happens to be antivivisection they become most earnest advocates and zealous propagandists. As an offset to all this every doctor should make it his business to spread the light of a right understanding of the position of the profession in this matter. Only in this way can we be assured that offensive legislation will not eventually be enacted. Apathy because of confidence in past defeats of the bill may at any time lead to enactments that would not only seriously cripple the great work of the Government laboratories, but start a wave of legislative enactments that would be felt disastrously in every experimental laboratory of the country.

ECHOES AND NEWS.

NEW YORK.

Harlem Hospital Trouble.—The House Physician, Dr. Campbell, has been suspended for three months and the visiting physician, Dr. Haubold, for one week, owing to a general family quarrel that had arisen among the physicians, the superintendent and some subordinates.

Some Seceders.—Owing to certain developments in the arrangements for the Tuberculosis Congress announced to be held under the auspices of the Medico-Legal Society, Drs. J. Blake White, L. A. Knopf, Egbert Le Febre and Charles E. Quimby have withdrawn their names and influence from any connection with the Congress.

Dr. McCosh.—We are gratified to be able to announce that Dr. Andrew J. McCosh, as we go to press, is rapidly recovering from the septic infection from which he has been suffering since Thursday, February 15th. On that day he became inoculated with some unusually virulent sepsis while performing laparotomy upon a child who was afflicted with a purulent general peritonitis.

State Hospital Buildings.—Under the Charter of the City of New York the authorities of the city have claimed the right to inspect the buildings and direct the manner of their construction, and also to inspect the boilers of the Long Island and Manhattan State Hospitals. Attorney-General Davies decided, on February 16th, at Albany, that the city has no such jurisdiction.

The Influenza.—Superintendent O'Rourke of

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the Department of Charities reports that there is a constantly growing number each day of patients suffering from influenza being admitted into the public hospitals. The wards for pulmonary diseases in most of the hospitals are full and cots in other wards are being used. The increased number of cases of bronchial and pulmonary affections in private practice is also marked.

The State University.—The *School Bulletin* announces the failure of Governor Roosevelt's Unification Commission in the reorganization of the State University. It says that there seems to be general agreement that the bill stands no chance whatever of becoming a law; it has already been thoroughly discredited by the public press, and in fact was introduced only with apologies in each House of the Legislature.

Contagious Diseases.—For the week ending February 17, 1900: Measles, 891 cases and 21 deaths; diphtheria, 310 cases and 43 deaths; laryngeal diphtheria (croup), 29 cases and 11 deaths; scarlet fever, 212 cases and 21 deaths; smallpox, 1 case; chicken-pox, 42 cases; tuberculosis, 183 cases and 166 deaths; typhoid fever, 19 cases and 5 deaths, cerebrospinal meningitis, 10 deaths. Total, 1687 cases and 277 deaths.

Charities and Corrections Departments.—A bill has been introduced into the State Legislature empowering the Commissioner of Correction to remove from his department to that of Charities any person committed as a vagrant upon certification that the person is aged, feeble and infirm, and mentally and physically unfit to perform manual labor. Commissioner Keller is opposed to this measure and is using his influence against its passage.

Yellow Fever from Santos.—A fireman aboard the German steamship "Taormina" of the Sloman Line, which arrived February 19th, from Santos with a cargo of 34,100 bags of coffee, died of yellow fever on February 12th, when the ship was seventeen days out. He was buried at sea. A fireman and messmate of his fell ill with the fever just after the latter's death. He was removed to Swinburne Island Hospital. The "Taormina" is detained for disinfection. She will proceed to the upper bay and discharge her cargo into lighters.

J. Hood Wright Memorial Hospital.—According to the annual report, 1357 cases were treated during 1899 in the emergency ward of this institution; 1164 patients were attended by its ambulance surgeons and not taken to the hospital; in all 8809 persons received care. In December the hospital ended its thirty-sixth year as a dispensary, established by Dr. Rodenstein, and the fourteenth year of its added work as a hospital, free of debt and with property worth $100,000. The receipts for 1899 were $21,202.29; the expenses amounted to $23,164.92.

Arrest of an Epileptic.—Hugh Higgins. Jr., an epileptic, who has been for years under treatment by Dr. William B. Noyes at the De Milt Dispensary, fell in a fit while on his way to visit friends in Brooklyn. A policeman arrested him on a charge of vagrancy and intoxication, and he was committed to jail for twenty-nine days. His father, on learning of this commitment, went to court and upon his statement of the circumstances Higgins was at once released. The patrolman should at least know when it is necessary to have a physician's opinion.

City's Population and Death-Rate.—The Board of Health has prepared an estimate of the population of this city on January 1, 1900, and an estimate of the death-rate for the first week of February. The population numbers 3,654,594 and the death-rate is 18.09 per 1000. Brooklyn Borough has the lowest death-rate, 16.35 per 1000. Manhattan has a death-rate of 19.65 per 1000 of estimated population. During the week ending February 3rd there were 1631 cases of contagious diseases, of which 118 died. One of these deaths was from beriberi.

Homeopathic Medical Society.—The Homeopathic Medical Society of New York State, at a meeting at Albany, on February 14th, elected the following officers: President, W. W. Butler of Brooklyn; first vice-president; E. W. Bryan of Corning; second vice-president, L. A. Martin of Binghamton; third vice-president, Emily Swett of Medina; secretary, Dewitt G. Wilcox of Buffalo; treasurer, Charles Deady; necrologist, W. S. Garnesey; nominees State Board of Medical Examiners, J. W. Garrison of New York, E. E. Hasbrouck of Brooklyn, Asa S. Couch, J. W. Candel and J. M. Lee.

Disposal of Garbage.—Representations of the Barren Island Reduction Plant were heard by the City's Committee recently in opposition to the bill before the Legislature for the removal of the plant. They maintained that the plant had been constructed at a cost of $600,000; that it consumed the garbage of the Greater City at practically no expense, the products paying the expense of the collection of the garbage and the operation of the plant. During the past two years the company has expended about $60,000 to remedy the features that were complained of as nuisances; there is now no offensive odor about the plant, and the only complaint is from the smoke and odor issuing from the chimneys. They thought these conditions could be corrected and they are willing to expend what money is necessary to accomplish it. The expense of an incineration plant, as proposed in Senator Wagner's bill now before the Legislature would be something enormous. The original expense would be about $13,000,000, and the expense of running the plant would probably cost the city a million and a half annually.

The Gerry Society.—The contest between the State Board of Charities and the Gerry Society (the Society for the Prevention of Cruelty to Children) has reached an acute stage. It will be

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remembered that the Board of Charities recently took legal proceedings to compel the Society for the Prevention of Cruelty to Children to submit to its inspection and control. The Society claimed it was not legally subject thereto, and the Court of Appeals sustained its claim. The Board of Charities thereupon introduced a bill into the Legislature bringing that society under its inspectorship. Mr. Gerry in behalf of the Society has privately circulated a letter to certain societies, asking them to write at once, and requesting their colleagues to write to their respective state senators and assemblymen, urging them not to sanction the proposed legislation. This, the Board's officers say, is simply further evidence of an attempt on the part of Mr. Gerry, for personal reasons, to break down and destroy that conservative state supervision which has in spite of such ulterior influence, protected the helpless of the State for over a quarter of a century, and with the support of the people of the State will continue to do so.

Tenement-House Exhibition.—The Charity Organization Society has now on exhibition on Fifth Avenue a most remarkable display of models, plans, photographs, maps, charts, and tables of statistics, bearing upon the general subject of tenement-house life and sanitation. The exhibition is a most striking object-lesson in many directions. The present condition of the tenement-houses of New York is strikingly presented, and the maps illustrate graphically that where overcrowding and filth are there is sickness and disease. The evils arising from the present condition are a distinct menace to the welfare of the community. There are at present over 4400 tenement-houses in Manhattan borough, and new tenement-houses of the most objectionable type are being erected at the rate of 2000 a year. This exhibition is an effort on the part of the Society to place before the public in concrete form a clear and comprehensive idea of existing conditions. so that intelligent action may be taken to remedy them and prevent their multiplication. No more concrete opportunity has ever been offered to the members of the profession, or to the public, to familiarize themselves with the degrading conditions under which decent and respectable working-men and their families are forced to live. The Society is acting wisely in the belief that, when existing conditions are understood and a knowledge of what has been done in other cities to improve similar conditions has been supplied, a thorough and satisfactory remedy will be applied.

PHILADELPHIA.

Health Report.—Deaths in the city for the week ending February 17th were 503, a decrease of 28 over those of the previous week and a decrease of 37 from the corresponding week of last year. Contagious diseases: Scarlet fevere, 93 cases, 3 deaths; diphtheria, 122 cases, 25 deaths; typhoid fever, 76 cases, 14 deaths.

Class Reunion.—The Executive Committee of the Alumni Society, University of Pennsylvania, medical class of '75, is planning to hold a reunion of the class at the coming commencement in June next. Members of the class are requested to send their present addresses and a brief account of their careers since graduation to Charles W. Dulles, 4101 Walnut street, Philadelphia.

Silver Nitrate in Phthisis.—At a meeting of the County Medical Society, February 14th, Dr. T. J. Mays exhibited several patients to show the results following the use of injections of silver nitrate in cases of phthisis. Some advanced cases showed marked improvement after three injections had been given. Five minims of a 2½ per cent. solution were used at each injection. Patients suffering from asthma and bronchitis have also been entirely relieved by this treatment.

Typhoid Epidemic Threatened.—Conditions seem to be ripe for another epidemic of typhoid fever. Last week's health report shows an increase of more than 35 per cent. in the number of cases and more than double the number of deaths of the previous week. The State Board of Health is endeavoring to locate sources of contamination along the Schuylkill river and to ascertain the exact condition of the water. Bacteriological tests are being made to detect the presence of the bacillus coli communis in the river water. Secretary Lee states that the typhoid bacillus is difficult to detect in water, but that the colon bacillus is never present without being accompanied by typhoid germs.

Report Sidetracked.—The results of a four months' investigation of the alleged irregularity in State examinations were presented to the Medical Council of Pennsylvania on February 13th. The result was the following resolutions "Resolved, that the report of the Board of Medical Examiners, together with all the testimony submitted therewith, be received and referred to a committee of five members of the medical council for the purpose of having a thorough examination made of all the facts alleged and testified to, so that a full report may be made to the council, for their subsequent action.

"Resolved, further, that the committee be requested to report what action, if any, can be instituted under the law looking to the permanent correction of the evils complained of."

The committee appointed consists of three lay members—the Lieutenant-Governor, the Attorney-General, and the Secretary of Internal Affairs—and two physicians, both of them members of the Examining Board.

Post-Typhoidal Insanity.—Dr. J. M. Da Costa discussed an unusual case of this affection at the Pennsylvania Hospital February 17th. The patient was a man of 21, who had passed through an ordinary attack of typhoid fever without being delirious or showing any extraordinary nervous manifestations during its course. The temperature became normal the seventeenth day of the

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disease. Seven days after this a curious mental state developed, taking the form of a nocturnal delirium of mild type. The patient was confused, failed to recognize the nurses, thought he was being treated wrongly, wished to go to work, etc. During the day there were no hallucinations or confusion and the patient did not remember the delirium of the preceding night. This condition still persisted at the time of the clinic. The case illustrated a type of confusional insanity following typhoid fever, and was stated to be almost alone in the history of the affection in that it occurred only at night. The prognosis was considered favorable because of this fact.

Ligation of Abdominal Aorta.—The findings of the autopsy made upon the body of the patient in whom Dr. W. W. Keen ligated the abdominal aorta were reported February 14th. The ligation was made at a point just below the celiac axis and immediately above a large aneurismal sac. The patient lived 48 days after the operation. The femoral pulse was re-established 24 hours after the ligation and in three days pulsation began in the aneurism.

Autopsy showed the condition to have been one of false aneurism. The anterior wall of the sac was made up of the aorta and the condensed surrounding tissues, the posterior wall being largely composed of the bodies of several vertebræ, these being considerably eroded. The opening in the aorta was on the posterior aspect of the vessel. The ligature, which was composed of four strands of floss silk, had cut completely through the aorta, death resulting from hemorrhage at this point. No clot was present either above or below the point of ligation.

Dr. Keen considers the case as demonstrating the possibility of successful ligation of the aorta under modern aseptic surgery. In any subsequent case he would use a broad ligature of tape or silk ribbon in order to avoid severing the artery.

Laryngological Society.—The annual meeting of the Eastern Section of the American Laryngological, Rhinological and Otological Society was held in this city February 17th. Cases of "Empyema of the Frontal Sinus" were reported by Drs. F. T. Rogers of Providence, R. I., and T. R. Pooley of New York City. The former directed particular attention to the fact that symptoms were referred to the opposite sinus instead of to the one affected.

Dr. A. B. Duel of New York City reported a case of "Empyema of the Antrum of Highmore of 15 years' Duration," with recovery after operation. A fragment of a tooth broken during extraction was the nucleus of a calculus found in the antrum. Various operations and attempts at drainage had been resorted to and during one period of five years the patient had used daily irrigation. The symptoms becoming aggravated the patient sought relief, and a radical operation was advised and performed. An opening large enough to admit a finger was made through the canine fossa, the cavity of the antrum washed out, the calculus removed, the thickened lining membrane curetted, and the cavity irrigated and drained. In four weeks the lower opening had healed.

Dr. Duel advises the opening of the canine fossa in cases of antrum disease of long standing, where the lining membrane is thickened and needs curetting, for the following reasons: 1. It affords an easy and direct means of access. 2. It is the part most favorably situated anatomically for drainage. 3. An opening can be made large enough to admit a finger, to permit curettage, and to allow inspection. 4. It promises a rapid and certain cure. 5. It is not likely to be infected by food, it can be kept open by drainage, and it can be closed by scarifying the soft tissues.

Dr. W. J. Freeman of Philadelphia read an exceptionally able paper on "Rhinoscleroma" and reported a case. The patient is a Russian who has been in this country but a few years. He has no headache, cough, or ear trouble, and his general health is excellent. The nostrils are almost occluded, the uvula congested and relaxed, and the lingual tonsil enlarged and red. The characteristic bacillus was found.

Dr. H. H. Curtis of New York City reported an interesting case of "Primary Epithelioma of the Maxillary Sinus." The patient suffered from neuralgic pain and tenderness was detected, but no discharge was present. The sinus was trephined through the cavity of the last molar tooth. In ten days the nose was involved and the whole jaw tender. A larger opening was made and the entire cavity evacuated, syringed with peroxide of hydrogen and packed daily with iodoform gauze. In two weeks there was difficulty in swallowing, in four weeks the nasal cavities were occluded and a tumor the size of a large apple projected externally. The pain was so intense that five grains of morphia were required each night. The death of the patient occurred at the end of the sixth week.

CHICAGO.

College of Physicians and Surgeons.—This college has procured a lease for its building from the University of Illinois for a term of twenty-five years, at an annual rental of $12,000. The contract provides that the university shall have one-third of the net earnings of the medical school, and the stockholders the remainder.

Filters in Evanston.—The question of a city supplying pure drinking water to its people by putting a filter in each residence in the city was thoroughly discussed recently by the Evanston City Council. The cost of putting in a filter in each house and maintaining it for twelve years would be $72.45, while the rental of each for the same period would be $72.00. University professors and physicians endorsed the use of filters at this meeting. It is believed that a filter will be put in each house.

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A Rich Charity Patient.—A few days ago, a charity patient by the name of Sam Besick, sixty years of age, died at the Chicago Baptist Hospital and was believed to be penniless. Money and securities amounting to $5000 were found sewed in his clothing. His tattered coat and waistcoat were literally lined with gold and silver coins. There were fifteen one hundred dollar bills sewed in an inner pocket, and a leather purse containing two hundred dollars was found under his coat collar. The money had been there so long that the coins were worn smooth and the purse was half-full of gold dust.

Visiting Medical Schools.—A committee of Rush Medical College, consisting of Drs. E. Fletcher Ingals, J. M. Dodson, Frank Billings, and Arthur Dean Bevan, headed by President Harper of the University of Chicago, recently returned from the East where they visited and inspected the Harvard Medical School, the new School of Columbia University, and the Johns Hopkins School of Baltimore. It is said that a new building will be erected on the property of Rush Medical College within the present year, provided the trustees can secure enough money to make up the balance needed, and this building will be devoted entirely to lecture rooms and laboratories.

Death of Dr. Edward L. Holmes.—Dr. Holmes died February 12th of pneumonia. He was born at Dedham, Mass., in 1828. He was graduated from Harvard at the age of twenty-one. In 1854 he obtained his degree of doctor of medicine from the Harvard Medical School. Dr. Holmes was prominent in Chicago medical circles from the moment of his arrival in this city in 1856. In 1858 he founded the Illinois Eye and Ear Infirmary. His association with Rush Medical College began in 1860, when he was appointed a lecturer on eye and ear diseases. In 1867 he was given a professorship; in 1890 he was president of the college. He was a member of nearly all of the local medical societies and of the Illinois State Medical Society.

Mortality Statistics.—There were 531 deaths reported during the week ended February 10th. There was a diminished number of deaths as compared with the week before from the following chief causes: Diphtheria, 6; pneumonia, 13; typhoid fever, 5, and consumption, 2. Pneumonia was responsible for 100 deaths, and bronchitis for 35. As compared with the corresponding period of last year, the mortality from typhoid fever was remarkably low, there being but three deaths during the week as against 14 for the period of 1899. Of the 531 deaths during the week, 196 were among children under five years of age, and 106 were of persons over sixty years, a total of 296 deaths at these age periods, or more than 55 per cent. of the total mortality. Two hundred and fifty-two cases of contagious disease were reported.

Chicago Pathological Society.—At a meeting, held February 12th, Dr. Alice Hamilton presented a paper on the proliferation of elastic fibers in new growths. The growths examined were benign connective tissue tumors, fibrosarcoma and alveolar sarcoma, carcinoma simplex and scirrhus. In all classes of growths, although not in every individual case, elastic fibers were found in the stroma. These fibers varied in abundance, the number apparently being in direct proportion to the richness in elastic fibers of the organ in which the growth occurred. The fibers could seldom be traced to blood vessels. They were most abundant in epithelial growths which showed a well-developed stroma and were often found in large numbers in rapidly growing tumors. The proliferation of elastic fibers in new growths is not mentioned in any of the text-books on pathology.

Disposal of Sewage.—With the introduction of sewerage systems there is one point that should not be overlooked, namely, discharging the organic wastes of a city on the hand of a sister city down the stream. Sewage, unless it is discharged into a stream of sufficient size to make it harmless by being sufficiently diluted, should be purified. There are several methods of accomplishing this, *viz.*, by broad irrigation, chemical precipitation, intermittent downward filtration, and by a septic tank disposal. As the last mentioned is by far the most economical and gives excellent results it is best adapted to smaller cities. Describing briefly the septic tank, it is an air-tight and light-tight structure, made so as to create the conditions for the growth of the aerobic forms of bacteria. The sewage enters this tank, is acted on by the aerobic forms of bacteria which decompose the organic matter and by the processes of nitrification produce the nitrates and nitrites forming mineral compound which are dissolved by the liquid matter and carried away. The result of this action is that after the sewage passes under several boffle boards and finally discharges over a weir in a thin sheet it is a clear liquid, showing little resemblance to the sewage entering the tank. All that remains in the tank is a harmless sludge devoid of almost all organic matter. This method of sewage disposal, which is receiving much attention in the engineering world, was introduced here by Professor Talbot of the University of Illinois. The State owes much to Professor Talbot, in solving this great problem of sewage disposal so practically and efficiently.

Chicago Medical Society.—At a meeting held February 14th, the subject for discussion was surgical affection of the kidney. Dr. L. L. McArthur discussed the symptomatology, diagnosis, treatment, and prognosis of neoplasms of this organ. Dr. M. L. Harris followed with a paper on renal calculi. He spoke of the etiology of kidney-stones, their experimental production; the influence of bacteria in the formation of stones. He pointed out the analogy between kidney-stones and stones of other ducts and organs; also the difference between primary and secondary

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stones. The value of pain and urinary changes in the diagnosis of stone was touched upon. The X-ray and urine-segregator were referred to as diagnostic aids. Finally, he dwelt upon the necessity for operation, methods, and results. Dr. D. N. Eisendrath discussed the pathology of renal neoplasms, their etiology and frequency, the general character of renal growths, methods of extension, relation of renal growths, simple or benign forms, sarcomata and carcinomata, and the relationship of renal growths to adrenal structures. Dr. M. Herzog spoke on the peculiar mixed tumors of the kidney. He said that the kidney is a peculiar organ from a histogenetic point of view. It is preceded by two temporary embryonic structures. It is therefore *a priori* not at all improbable that we may find in it peculiar embryonic inclusions which may become the matrix of tumor formation. Tumors of the kidney are frequently puzzling, and the histology and histogenesis of such neoplasms have formerly baffled pathologists not a little. Among the most interesting of renal neoplasms are the mixed tumors, containing epithelial as well as connective tissue elements. The author advanced the views held as to the origin of these mixed tumors or embryonal renal adenosarcomata, and closed his paper by reciting his own theory as to their histogenesis.

GENERAL.

Influenza in Berlin.—The influenza still continues to gain ground; there are more than 80,000 persons in Berlin suffering from the malady, although there has been a light mortality.

X-ray for Cancer.—It is reported from San Francisco that Dr. J. M. Selfridge of Oakland, after suffering from cancer of the face for twenty-five years, has been cured by X-rays. After three recurrences following operative procedures, Dr. Selfridge last October began a series of applications of the X-ray to the growth; all traces of the cancer have disappeared, but the skin and tissue are sensitive. The exposures are being continued.

Hospital Ship "Maine."—Lady Hesketh, daughter of the late William Sharon of Nevada, is the latest American to take an active part in the hospital ship "Maine." She has enlisted the interest of John Kirkpatrick of San Francisco in regard to the formation of a committee for the Pacific Coast, and has opened a subscription with $500. Her efforts, combined with those of Lady Adair, who recently arrived from London on a similar mission, will doubtless be effectual in supplying the funds necessary to meet the expenses of the "Maine," which amount to $15,000 per month.

Army Surgeons Wanted.—The Medical Department of the Army is in need of assistants in the Philippines. Applications for positions as acting assistant surgeons will be received by the Surgeon-General of the Army at Washington. Applicants must be graduates of reputable medical colleges, and have had practical experience in hospitals or private practice. Men between the ages of twenty-five and thirty-five are preferred. All applicants will be examined as to their physical and professional qualifications for service in the Philippines before they are accepted. Contracts will be made for one year, with the understanding that the approved candidate will remain in service for a longer period if his services are required. Applications should be accompanied by one or more letters from well-known professional men, giving testimony as to character and qualifications. Surgeon-General Sternberg announces that letters designed to produce political effect will injure rather than benefit the applicants' chances.

Demented Soldiers.—A report that 250 demented United States soldiers had arrived at San Francisco and were distributed for treatment led to an investigation by order of Adjutant- General Corbin. The report shows that the actual condition has been greatly exaggerated. The commitments of enlisted men to Government hospitals for the insane by the Secretary of War from May 1, 1898, to the present time shows as follows: Admitted to the hospitals: Regular Army, 134; State volunteers, 70; United States volunteers, 10; ex-soldiers recommitted, 9; a total of 223 men. Of this number there have since recovered and been discharged: Regular Army, 68; State volunteers, 54; United States volunteers, 6; ex-soldiers, 1; a total of 129. There are now under treatment at the hospital: Regular Army, 66; State volunteers, 16; United States volunteers, 4; ex-soldiers, 8; a total of 94 military patients. Of the total number treated at the hospital only thirty-seven men served in the Philippines, and of these eleven have been discharged as cured. There was not a single insane patient among nearly two hundred and seventy invalid soldiers just brought home from the Philippines on the hospital ship "Missouri."

The Plague.—Advices from Honolulu February 2nd state that no new cases of bubonic plague had developed there since January 25th, all detention camps were free from sickness of any kind, and the health officers were under the impression that the plague had about run its course. There were still 7400 Japanese and Chinese in quarantine. The health officials have evidently done thorough work, but it has been at great expense. During the quarantine 10,000 people have been in the isolation barracks and upward of 8000 people have been rendered homeless by the burning of buildings. It is estimated that the expense entailed will exceed $1,000,000; the military establishment alone costs about $1300 a day, and in addition to this guards and inspectors employed by the Board of Health have until lately cost half as much more. For nearly a month the Government supplied the rations to about 1900 persons in the quarantine district. In the promptness and thoroughness of the work the health authorities of Honolulu have certainly set an example for the rest of the world. In connection

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with their quarantine work a general raid has been made upon the rats. A day was set apart and every householder was supplied with a package of poison for use in destroying these vermin. The latest reports from Manila state that there have been within the walls of that city 52 cases of plague and 43 deaths. The victims were all Chinamen. The famine and the plague continue advancing their deadly work in India.

Medical War News.—In spite of the extremely complimentary despatches that are coming from South Africa regarding the efficiency of the medical corps, the work is not being done as smoothly at is appears upon the surface. In the camp at Modder River typhoid fever appeared early among the soldiers in the ranks and many of them died of the disease. The outbreak was due to the infected river water. At the same camp a severe form of diarrhea attacked the troops; the stools were very acid, frothy, and of a light-green color, a little blood and much mucus being mingled with the liquid discharge. The malady runs its course in about a week, but leaves the patient very weak. That affection was attributed to the sand storms which have frequently prevailed, lasting from an hour to an entire day. The gritty particles of sand breathed and swallowed are held responsible for the diarrhea. It would seem more probable, however, that the germs contained in the sand have been a more active agent than the irritating presence of the sand itself.

On January 8th a serious fire occurred in one of the barrack-hospitals at Maritzsburg; two wards containing 50 patients, were completely destroyed. Fortunately all the patients were gotten out uninjured. The fire is ascribed to the upsetting of a lamp. It has been found that the khaki suits do not afford sufficient protection for the men when sleeping on the field. It is said that extensive orders for woolen khaki uniforms have been placed with manufacturers. The word "khaki" signifies a color (that of mud) and not a material. The hospital ships afford most refreshing quarters for the sick and wounded as they come down from the camps. The correspondent of the *British Medical Journal* reports that at Durban they are having cloudless, blue skies from week's end to week's end, with now and then a shower of rain to relieve any possible monotony. Cool breezes from the southwest, the fresh salt smell of the sea, and an equable temperature day and night are bringing back to health and strength the hundreds of poor, unfortunate sufferers.

The German Army.—The report of Dr. John M. Woodbury, of New York, late Major and Chief Surgeon, U. S. V., who, during the past summer, as United States Commissioner, observed the maneuvres of the German army in the field with reference to their hygienic, sanitary and medical arrangements, has been made to the Secretary of War. The report covers the ground most admirably, and contains some suggestions that it may be found advantageous to adopt in our own army. Regarding the food, the report says that the quality is excellent and the quantity is sufficient, being one-half pound of meat per day per man, a pound of fresh vegetables, a ration of split peas, or beans for soup, and two ounces of coffee, chocolate or cocoa. Each man carries his own cooking utensils, consisting of a tin cannister, in which his provisions are packed. When the top or lid is removed the bottom may be used as a kettle and the top as a coffee-pot. In the field two men usually mess together, one making soup in the bottom of his cannister while the other makes coffee in his, the tops being used as plates. There are no scraps and there is no waste. In the new equipment his provision cannister is made of aluminum; it is carried on top of the knapsack; there is no haversack. The total weight of each man's equipment pack and piece is sixty pounds. The knapsack is made of horse-hide, with the hair on, and is water-proof; in this the soldier carries one extra pair of shoes, two extra pairs of socks or foot bandages, one brown linen fatigue suit, one overcoat, shaving materials, soap, towel, needles and thread, a lump of tallow, fifty rounds of ammunition, a pound of bread and what conserves he may have issued to him. The shelter tent is rolled and attached to the knapsack. No blanket roll, slung from shoulder to hip, is allowed. There are three grades of sick rations: For the very sick special diets; for those not so ill a soup or stew like heavy broth, containing meat, with rice and vegetables; for convalescents, strong supporting diet of roast or baked meat, with potatoes, onions, etc. The medium sick and convalescents receive an issue of claret equivalent to half a pint of burgundy twice daily; for the very ill spirits may be obtained, but only on the doctor's order. There is no such thing as a sick call in the German army; if an enlisted man feels ill or seems to be unfit for duty it is reported to the first sergeant of his company. If on inspection the sergeant finds the man to be in need of medical care, if the case be in the barracks, he is retained in quarters until the medical officer makes his daily rounds, morning or afternoon; if in the field he is picked up by a hospital bearer and taken to the field hospital. The record is kept by the first sergeant, and the man continues to be borne on the company strength, but as "off duty;" when he is returned he is simply marked for duty on the company books; the time that he has been away is stated as "in the hospital." Tentage is small in amount; requisitioned quarters in the nearest village being always used, the Germans having a saying that their worst quarters are better than the best bivouac. They never use canvas when they can get the tight roof of a house. The feet of the soldiers are most carefully considered, each man's feet being inspected by one of his company officers at least twice a week in barracks and oftener in active field maneuvres. The inspection officer searches carefully for strained tendons, blisters, improperly cut nails or untrimmed corns; at the same time each man's socks and boots are carefully in-

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spected as to the condition of cleanliness. The entire body of each man is inspected every thirty days by a company and a medical officer, careful search being made for heart lesions, herniæ, venereal disorders, skin diseases, etc.

CORRESPONDENCE

FADS IN THE STUDY OF EPILEPSY.

To the Editor of the MEDICAL NEWS:

DEAR SIR:—Receiving no reply to my letter of January 23, 1900, asking of you the author of the editorial in the NEWS of January 23, 1900, entitled "Fads in the Study of Epilepsy," I wish to record this protest against what appears to me manifest injustice on your part.

I complain that you, the editor of a presumably fair and reputable medical journal, should open your *editorial column* to an unscientific and undignified personal attack such as the article in question proves to be, thus sheltering its author by the anonimity of an editorial.

Very sincerely yours,

A. P. Ohlmacher, M.D.

The Ohio Hospital for Epileptics,
Gallipolis, O., January 31, 1900.

[We regret extremely that Dr. Ohlmacher should have construed the editorial in the MEDICAL NEWS of January 20th as a personal attack upon him, for such was not the intention. No one carefully weighing the mass of yearly literature upon epilepsy can fail to appreciate that many of the authors do not grasp the epileptic phenomena in their entirety, and, as a consequence, tend to draw unwise and unwarranted conclusions from insufficient data. For the sake of maintaining a reasonable sanity of judgment upon these subjects among those readers of the NEWS who do not give especial attention to the convulsive disorders and their allied neuroses, we consider an occasional *résumé* of epileptic literature essential; we published the editorial in question in this connection. With apologies to Dr. Ohlmacher for the unintentional, possible injury to his personal feelings by the Juggernaut of scientific criticism, we submit that there is no adequate evidence in the editorial in question proving it unfair or unscientific.—ED.]

KIRKES' HANDBOOK OF PHYSIOLOGY.

To the Editor of the MEDICAL NEWS:

DEAR SIR:—In 1896 I had to call attention to the fact that Messrs. Wm. Wood & Co. of New York were publishing an unauthorized edition of Kirkes' well-known "Manual of Physiology."

I have recently obtained a copy of the fifteenth edition of their work bearing date 1899, and having on the title page the names of Mr. Morrant Baker and Dr. Vincent Harris as editors.

The facts are as follows: Mr. Morrant Baker (who is now dead) and Dr. Vincent Harris gave up the editorship of the genuine work four years ago, and even before that time Messrs. Wood never had permission to use their work or their names. Since 1895-6 Professor W. D. Halliburton has been sole editor of the hand-book: he has almost rewritten the work from beginning to end, although Kirkes' name has been retained.

One of the special features of our book is a series of colored illustrations of blood-corpuscles, blood-crystals, etc. These together with many alterations and improvements, both in cuts and text, which have been introduced by Professor Halliburton, have been adopted by Messrs. Wood without any acknowledgment of the source whence they were derived, and in the teeth of a protest by Professor Halliburton and myself (who am the proprietor of the book).

Not only have Messrs. Wood "conveyed" a large amount of Professor Halliburton's original work, but they have also issued their book under the names of Mr. Morrant Baker and Dr. Vincent Harris, who have nothing to do with it.

I think it is but right that I should again call the attention of the American medical profession to this glaring and persistent case of literary piracy, for the present United States law gives me no other redress.

The only authorized and complete edition of Kirkes' Physiology sold in America is that published by Messrs P. Blakiston's Sons & Co. of Philadelphia in conjunction with my firm.

John Murray.

50 Albemarle Street, London, W., February 8, 1900.

OUR LONDON LETTER.

[From Our Special Correspondent.]

LONDON, February 10, 1900.

DEFICIENCIES IN THE ARMY MEDICAL STAFF—MENTION OF MEDICAL OFFICERS IN DISPATCHES—DISTINGUISHED HOSPITAL OFFICIALS—ANOTHER LEGACY FOR LONDON HOSPITALS—THE LATE SIR T. GRAINGER STEWART.

THE extent of the much talked of shortage in the membership of the Army Medical Corps is being slowly but significantly revealed under the pressure of actual hostilities. The Secretary of War, in reply to a question in Parliament, had to admit that almost half the entire number of officers enrolled were now serving in South Africa, leaving only about 350 surgeons for the wide range of all other foreign stations and barely 110 at home. No less than 161 civilian surgeons were already employed in South Africa, and their number will have to be considerably increased ere long. In other words, almost a third of the army surgeons in the field have been drawn directly from civil practice. Moreover, at home nearly one-half the duties of attendance upon troops in garrison and hospital are being performed by civilian practitioners.

To make matters worse, the militia are now being called out for service, and, as the *British*

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Medical Journal points out, the Medical Staff Corps of this arm of the service has, incredible as it seems at first sight, to die out almost completely under the well-known fostering care extended by the War Office over things medical. From 250 officers its numbers have shrunk to 24, thus giving one surgeon to each 5000 men of the force! This deficiency, of course, will have to be supplied almost at once, as the force is being called out for service. The combined Army aud Militia Medical Corps has dwindled from some 1300 officers forty years ago to barely 900 now, while the size of both forces and the extent of their distribution have greatly increased. If this be a fair sample of the interest taken in the Medical Service by the War Office, is it any wonder that medical officers bitterly complain of the drawbacks and many unpleasantnesses of their position? That the profession at large are thoroughly aware of the facts of the case and resent the attitude of the authorities is significantly seen in the fact that even now, when a tardy and ludicrously inadequate attempt to fill up the ranks is being made by offering thirty commissions (against a shortage of 400) only 25 suitable candidates have presented themselves! And yet there are hundreds of volunteers for medical service at the front by direct appointment. Evidently radical reforms in the Army Medical Corps will be absolutely necessary before the authorities can bring it up to its full complement again.

The mention of medical officers in the dispatches from the front for distinguished services compensates somewhat for the shortcomings of the military authorities. Within the past week four or five army surgeons have been highly commended in the reports of generals-commanding. General Lord Methuen speaks of the splendid manner in which the battlefield of Belmont was cleared of its wounded as "the most perfect work I have ever heard of in war, reflecting the highest credit upon Colonel Townsend." The triumphs of organization by the same medical officer at Enslin and at Modder River are also praised. General Methuen is so delighted with the care taken of the wounded that he says he is glad to have been slightly wounded himself in order to be able to see personally how skilful and assiduous this service is. Colonel Paget especially mentions Captain Moores, "who, although wounded in the hand, said nothing but continued his duties." General Hildyard commends the good service of Major Ricketts in removing the wounded from Beacon Hill. Finally, in his great speech a few days ago in the House of Commons, in defence of the war policy of the Government, Mr. Chamberlain paid a high compliment to the efficiency of the Army Medical Corps. Cynics, of course, may suggest that both the generals and the Hon. gentleman were only too glad to find some part of the conduct of the campaign which they could conscientiously and safely praise, but the fact remains nevertheless that the value of the services of our profession has at last been publicly and officially recognized.

The same week that sees Conan Doyle depart for the front with the Langman field-hospital will probably witness a member of Parliament starting as manager of the American (Van Alen) hospital. This is Mr. Guthrie Murray, representing the borough of Ban, and he has just bade farewell to his constituents in a speech in which he said that he had months ago offered his services to the Secretary of War in any capacity most useful, and he could conceive of none more useful than this. He had special pleasure in taking part in such a substantial and generous embodiment of American sympathy and philanthropy, whose donor, Mr. Van Alen of New York, deserved the gratitude of the British nation. The cost of the hospital he stated at $100,000. Both this and the Langman hospital are made up of tents especially suited to rapid changes of position, and are going directly to the front for use on, or as near as possible to, the field of battle. The manager of the latter hospital will be Lieut. Archie Langman, the son of the donor.

Rudolph Zunz, a wealthy metal merchant of Wimbledon, has just left an unusual form of legacy to several of the London hospitals. This is a specific allotment of $125,000 for the establishment of a ward in whichever of the hospitals his executors may choose, in memory of his wife. This is to be known as the "Annie Zunz Ward," and a specified life-sized photograph of his wife is to be hung upon its walls. The final residue of his estate is to be used to establish as many similar wards as its amount will permit. As this residue bids fair to reach the handsome sum of $400,000 several hospitals will benefit by this touching and most grateful display of devotion to the memory of his departed wife.

The death of Sir Grainger Stewart removes one of the most brilliant names from the list of the English profession. As years are counted on this side of the Atlantic he died comparatively young, being barely 62 years of age, but when we remember that he was handicapped in boyhood with a cardiac defect following rheumatic fever and consider the mass of valuable work accomplished and roll of triumphs won, we are astonished that even his indomitable spirit should have sustained him so long. Another attack of acute rheumatism still further damaged his heart in 1882, and, as in so many other cases, the beginning of the end was brought about by the influenza epidemic of 1891. This seriously disturbed the cardiac innervation, since which his condition has been almost constantly a source of anxiety to his friends.

His history seems to indicate that the great physician, like other geniuses, is born rather than made, for he was scarcely 25 when he published a paper upon the forms of nephritis, which has passed into classical literature, and at 22 he brought out his great work on "Bright's Disease of the Kidney," which made him famous. Beginning his career in Edinburgh as a lecturer in Materia Medica, he passed from this to Pathology and, after seven years' hard labor and brilliant

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results, to Clinical Medicine where he shone for so many years. He was great in everything he touched and a living disproof of the popular sciolist theories about the insanity of genius or even its one-sidedness. His greatest success, however, both as a diagnostician and a teacher, was his power of going to the heart of things at once, disregarding the unimportant symptoms of a case to seize upon the vital, sweeping away all the trivial details of a lecture-subject and bringing out its essentials in bold relief. This and his unremitting and incessant industry, were the secrets of his success. He was as warmly beloved personally as he was admired for his scientific attainments and his loss is keenly felt by the entire English profession.

TRANSACTIONS OF FOREIGN SOCIETIES.

French.

SO-CALLED PERNICIOUS DYSENTERIC FEVER—ARREST OF DEVELOPMENT AND ITS TREATMENT—SURGICAL TREATMENT OF ABSCESS OF THE LIVER—HYDATID CYSTS OF THE LIVER AND DELBET'S METHOD OF TREATMENT—THE QUESTION OF GLANDULAR INFECTION IN CARCINOMA OF THE STOMACH—MORE UNUNITED FRACTURES HEALED BY THYROID EXTRACT—COURTESY OF CHINESE COACHMEN AND THAT OF FRENCH SURGEONS—EDEMA ANTHRACIS—PLEURISY DUE TO TYPHOID BACILLI—ALARMING DEVELOPMENT OF TUBERCULOSIS AMONG NEWLY ARRIVED COUNTRY PEOPLE IN PARIS—THE PLACE OF CALOMEL IN THE TREATMENT OF SYPHILIS—DESTRUCTION OF THE LARVÆ OF MOSQUITOES.

AT the Academy of Medicine, January 2d, LAVERAN discussed a work of Kanellis and Cardamitis of Athens upon pernicious dysenteric fever. These authors state that dysentery and malaria are often found as complications of one another, the anemia and weakness which one produces predisposing to the contraction of the other. Laveran said many facts show that when malarial fever and dysentery coexist in the same individual they aggravate each other. Numerous symptoms which have been atributed to "attacks of pernicious dysentery" may be explained by an attack of malarial fever coming on in a patient who has dysentery. The true nature of such attacks can only be known if the blood is examined. The absence of hematozoa enables one with certainty to eliminate the diagnosis of malaria. Moreover, such a patient will generally not have a history of malaria; the spleen will be found of normal size or even smaller than normal, and the attacks will not yield promptly to quinine as they would if they were of malarial character. The term "pernicious dysenteric fever" ought to be crossed from the list of pernicious fevers. There is no such thing as a dysenteric fever developing directly under the influence of hematozoa, but simply dysenteries complicated by attacks of malaria.

SPRINGER spoke of arrest of development of the child and its treatment. Development may be arrested by dyspepsia, hepatic congestion, insufficient thyroid action due to infectious disease, the abuse of alcohol or food, etc. Among the means which are capable of stimulating the growth of the body he mentioned the removal of the adenoids (useful in certain cases only), Swedish gymnastics, continuous aeration, saline medication, and hydrotherapy. But the most important rôle is played by the epiphysial cartilage of the lower end of the femur. He has proved that in case of arrested development, local excitation of this part will awaken physiological activity and stimulate the growth. Growth takes place by thrusts forward. It takes some time for it to show itself anew after a period of repose. To accomplish these results the knees may be wrapped with compresses wet with bitter saline waters. Friction and massage are also useful, but the best treatment is that by electricity. Galvanic, faradic, and static electricity may all be used with benefit, but a combination of static electricity with faradization of the muscles which surround the lower end of the femur produces the most rapid results. The speaker also alluded to the good effects of decoctions of the cereals on the development of the body and of the waist.

PINARD, January 16th, mentioned an instance of vicious insertion of the placenta. There was a tongue-like process of the placenta which extended from its lower margin across the mouth of the uterus. Other than by this process the placenta was not a placenta previa. When such a process exists it is usually said to be atrophied, but such was not so in this case. On the contrary, it was even thicker than the rest of the placenta.

At the same society, January 23d, LUCAS-CHAMPIONNIERE spoke of the surgical treatment of abscess of the liver. A soldier of Algiers was taken ill with violent pains in the epigastrium, vomiting and a high fever, compelling him to remain in a hospital three months. Eight months later he had a second attack more severe than the first, and aspiration showed an abscess of the liver to be present. After resection of the ninth and tenth ribs posteriorly, the abscess was opened and two liters (quarts) of pus escaped. The cavity was lightly irrigated with peroxide of hydrogen and two rubber drains were placed in it. In spite of the late stage at which this patient came to operation, his complete recovery seemed likely at the time of the report. In opening an abscess of this character it is well, if possible, to avoid opening the peritoneal cavity. While the pus itself may be sterile, it is always a good medium for the growth of bacteria. For incising the liver, a thermocautery is preferable to the knife. It consumes more time but reduces the loss of blood to a minimum.

At the Society of Surgery, January 10th, QUENU discussed the treatment of hydatid cysts of the liver. It seemed likely that a cyst treated according to the method of Delbet, by closure without drainage, must fill up with bile. Some-

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times when such a cyst is drained, enormous quantities of bile flow out into the dressings, even although there be no infection; and the reduction of pressure which follows a simple aspiration will sometimes result in a transudation of bile. However, it can be said that the transudation of a serous fluid does not interfere with cicatrization. Quenu treated five cases of hydatid cyst without drainage, applying a simple suture in three instances, and a suture in layers in two. Three times a secondary infection interfered with the recovery, due, as he believed, not to any error in technic but to the transudation into the wound of septic bile. He would not be quoted as an opponent of Delbert's method of suture without drainage, but thinks that this plan should be reserved for simple cases in which the general health of the patient is good, and there is no danger of biliary infection.

HARTMANN said that he had twice operated by Delbet's method with complete success, but thought that it should never be used unless the operator can see every part of the inside of the cyst. If he could not do this he could not be sure that there was not some pocket left which still contained some hydatid material. It frequently happens that an apparently clean cyst cavity will after a few days discharge such material.

GERARD-MERCHANT said that he had operated fourteen times upon hydatid cysts by the usual methods with complete success. Many of the patients were, however, slow in recovering, and he therefore tried immediate suture upon the last patient, but put a drain in the abdominal cavity. This he regretted, as it simply delayed the recovery of the patient and served no good purpose.

POTHERAT said that Delbet went too far in claiming that hydatid cysts ought never to be treated by marsupialization. The evils of this open method of treatment are far less now than they were in the days before antiseptics were known, and it is at present quite possible to treat a hydatid cyst of the liver in this manner, and have it heal up in two or three weeks. The danger of Delbet's method lies in the fact that one cannot be sure suppuration will not follow, no matter how careful he may be in his technic.

DELPET took up the question of glandular infection in carcinoma of the stomach. Here, as with all epithelial cancers, the metastases form rapidly. This ability of the epithelial cells to grow and multiply in the lymph spaces of connective tissue is characteristic. In benign epithelial tumors, such as the dermoid cysts, the epithelial cells live in some sense in an encysted state. This peculiar property of the epithelial cells of cancer has a direct bearing on the parasitic theory of cancer. So far as known the cells of no psorosperm will invade the lymphatic spaces, and, if cancer is due to a psorosperm, it is necessary to attribute to these organisms properties different from any that they are at present known to possess.

TUFFIER said that it is not always possible to remove all the affected glands in a case of cancer of the stomach. He performed a pylorectomy upon a female patient, removing, as he thought, all the infected glands. For two years the patient was apparently cured. Then a further growth of the tumor became manifest behind the duodenum, for which gastro-enterostomy was performed to give temporary relief.

POTHERAT mentioned two additional cases in which ununited fractures were cured by the use of thyroid extract. Both patients had sustained fracture of the leg, and in each the union became complete in from twenty to twenty-five days after the administration of the thyroid extract was begun.

At the annual meeting of the Society of Surgery, January 31st, S. POZZI, the President, in the course of an address told the following anecdote: "Heinrich Heine relates that in China, where two coachmen of the Celestial Empire meet in a narrow road and the wheels of their vehicles become entangled, they do not lose their tempers and swear, but, dismounting, they bend the knee and bow several times, and then together they labor to separate their wheels. When this is accomplished they again make obeisance, remount their carriages and drive on. . . . My dear colleagues, let your learned discussions be at least as courteous as the common conflicts of the Chinese coachmen."

At the Medical Society of the Hospitals, January 12th, THOINT mentioned the case of a shepherd who was bitten by an insect in the upper eyelid. The immediate result was a painless white induration, but the swelling gradually spread over the face and forehead, and became violet. The symptoms were such that the man's death was expected, but he finally recovered. On account of the situation of the trouble no incisions were made, but the parts were simply kept covered with compresses wet with bichloride of mercury solution. The lesion did not suppurate but a dark serum could be squeezed from it, which produced no effect upon animals into which it was injected. Despite this fact and the fact that the patient recovered, the trouble was looked upon as an edema due to anthrax, especially as anthrax existed among the sheep of a farm close by the pasture in which the shepherd was employed.

SOUQUES mentioned at the meeting of January 19th two cases of pleurisy due to the bacillus of typhoid fever. These pleurisies appeared in the first week of the typhoid, and were preceded in one instance by a bronchitis, and in the other by a broncho-pneumonia. The pleuritic fluid in each case was bloody, and in one case it became purulent and afterward again bloody before it was entirely absorbed. Recovery of both patients followed without the performance of thoracentesis. The pleuritic fluid in these cases did not possess agglutinating powers, as has sometimes been the case with fluids similarly obtained. This difference in reaction cannot at present be explained.

BARBIER called attention to the interesting fact that two-thirds of the tuberculous patients who applied for relief at the various hospitals and dispensaries of Paris were born not in Paris but in the provinces; and that more than a third of these immigrants to the city had contracted the disease during the first six months of their urban life. As very few of these patients gave a history of tuberculosis in their families, contagion was responsible for almost all of the disease. Doubtless alcoholic habits and bad or insufficient food had made the victims especially prone to infection.

SIREDY said that in his observation immigrants from Breton, Savoy and Auvergne were especially liable to contract tuberculosis; and that the unhealthful state of the dwellings in which these people lodged on their arrival in the city was favorable to the spread of the disease.

At the Society of Dermatology and Syphilography, January 11th, DANLOS showed a patient who, as a result of syphilitic iritis, had nearly lost his sight. For two years he had been treated in different hospitals without benefit, having received in one of them thirty injections of mercuric biniodide. When first seen by Danlos he had a marked mercurial stomatitis. After two weeks' rest from treatment, injections of calomel were begun, with the striking effect of almost completely restoring the lost sight, although only four injections were made.

FOURNIER said that calomel in certain cases has a wonderful effect. Certain rebellious lesions of the tongue and larynx and certain cases of phagedenism yield like magic to calomel, although they have resisted all other forms of mercury. But at other times calomel fails under circumstances in which the soluble salts of mercury or the proto-iodide will be successful. Recognizing the terrible pain which is caused by the injections of calomel, one ought to reserve this method of treatment for those cases in which milder measures have failed.

At the Society of Biology, January 20th, PHISALIX spoke of the destruction of the larvæ of mosquitoes, a problem which has assumed great importance since it is known that they are agents in the spread of malaria. The best means thus far tried to accomplish this end is the pouring of coal-oil on the surface of ponds. This method has been carried out with success in America, where it has been found that one-half ounce of oil is sufficient to kill the larvæ of a square yard of water. The death of the larvæ is caused by the introduction of the oil into their tracheæ. The most favorable season in which to make use of this means is the spring-time.

Treatment of Psoriasis.—

℞ Acidi salicylici.....gr. xlv
Ichthyol 3iis
Acidi pyrogall.....3iss
Lanoline .....q.s. ad. ℥iii
—*Brocq.*

SOCIETY PROCEEDINGS.

THE NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, Held Thursday, January 18, 1900.

The President, William H. Thomson, M.D., in the Chair.

Myocarditis.—The paper of the evening on this subject was read by Dr. John H. Musser of Philadelphia. This will appear in a subsequent issue of the MEDICAL NEWS. Dr. Henry Koplik then read a paper entitled "Myocarditis in Infants and Children," which will also appear in the MEDICAL NEWS.

Diagnosis.—Dr. Janewav said that despite all the study that has been devoted to the subject the diagnosis of myocarditis still remains a most difficult problem. It has been said that there is a facies myocarditica, and that the diagnosis can be surely made from the patient's face. Most consultants have seen patients who had been assured by experienced physicians that they had no heart disease, yet who have proved on careful examination to be suffering from serious forms of myocarditis. Some such cases serve to show how absolutely unsuspected the cardiac lesion may remain despite repeated examination. Not long ago a man was seen who had developed some time before, as a consequence of slight overexertion, a good deal of difficulty of breathing. There had been a fire in his store and this had led him to run around a good deal more than he had been accustomed to. Physical examination disclosed to the doctor whom he consulted the fact that there was fluid in his right chest. He was told that he had tuberculous pleurisy and that he must leave this climate. His physician was a distinguished diagnostician who had written a book on diseases of the chest and lungs. The patient's heart was pronounced to be normal. He went to Colorado, but experienced no relief, on the contrary his symptoms became worse. On his return from Colorada he was seen by another specialist who had also done some writing on this subject. He, too, also failed to find any heart lesion. Twenty times his thorax had to be aspirated for the continually accumulating right hydrothorax due to his weak heart action. In another case seen not very long ago there were no murmurs present and no symptoms of any lesion of the valvular mechanism. The heart-sounds were feeble and rather characteristic of the presence of myocarditis. The first sound was short and valvular in character, resembling very much the normal second sound. There was the tick-tack that is typical of a greatly weakened heart muscle. Dilatation could be demonstrated and there was enfeebled circulation. Albumin and casts were absent. Finally, as the result either of brain anemia or of some autotoxemia, the patient became delirious and a neurologist was called in. He found traces of albumin in the urine and said that the whole train of symptoms had been due to

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chronic Bright's disease. The case went on to a fatal termination and autopsy was secured. The heart was found dilated and contained a number of myocarditic lesions. There was a thrombus of the left ventricle more than half filling the cavity. This, of course, developed towards the end of the case and showed the reason for the marked disturbance of circulation which preceded death. In two other cases that have been recently under observation, hydrothorax was the primary symptom. The text-books usually say that the hydrothorax due to myocarditis, or to any heart lesion, occurs on both sides. It will often be found, however, to develop on only one side.

Bacilli and Tuberculosis.—In a recent case in which the autopsy showed that here was a syphilitic myocarditis and a periarterial gumma around the aorta, compressing the coronary arteries and so leading to further diseases of the heart muscle, the diagnosis of tuberculosis was made. The main physical symptom on which the diagnosis was based was the presence of a one-sided hydrothorax, which was thought to be a consolidation. After repeated examinations a few tubercle bacilli were found in the sputum and the patient was, therefore, sent to Mexico. After death absolutely no signs of tuberculosis were found in the lungs. There was, however, a distinct heart enlargement consisting of hypertrophy and dilatation with considerable myocarditic degeneration. The case brings up the important question of the diagnostic value of a few tubercle bacilli that may be found after repeated examinations. It is so easy to make some little slip of technic, which, because of their universality, will introduce tubercle bacilli from without, that it is always well to have a single such observation confirmed by further investigation. A distinguished bacteriologist who heard not long ago of a number of examinations having been made in a laboratory for the purpose of finding tubercle bacilli in the blood, the result of all of the examinations being negative, said that he was sorry for the laboratory. Under such circumstances of repeated examination a bacteriological error will almost surely creep into some observation.

Angina and Pseudoangina.—It is a matter of not a little surprise how many experienced physicians are led to make the diagnosis of dyspepsia when the condition is really an angina due to serious degeneration of the heart. A very striking case of this occurred not very long ago. The patient was a physician and the consultant who was called thought that the anginoid symptoms could all be attributed to dyspepsia because they occurred most frequently after a hearty meal. It was apparently forgotten that a stomach distended by the presence of food presses up against the diaphram and through it on the heart and so may hamper the heart action. When the heart itself is diseased, this hindrance of its function may readily set up the series of symptoms that we know as angina pectoris. Very often in these cases it is not so much a mistake of diagnosis, as the disinclination of the family physician to pronounce the case one of serious cardiac degeneration so long as there is any ground to think that it may be only functional in character.

Anatomical Division of Myocarditis.—Dr. Adler said it was the custom not many years ago to divide myocarditis from the anatomico-histological standpoint into interstitial and parenchymatous. In the interstitial form it was the connective tissue lying between the muscle fibers and around the blood vessels which was supposed to be affected. Proliferation took place in these tissues with gradual degeneration of the muscle fiber itself and the production of the large so-called fibroid heart. In other cases it was the muscle fiber itself which first degenerated and then an overgrowth of the connective tissue took place to supply its place as it were. Further experience and careful examination of hearts in various stages of myocarditis show that no such hard and fast lines can be drawn. Even very early in myocarditis both processes, the degeneration of the muscle fiber and the proliferation of the connective tissue, will be found to have taken place. There are some forms of myocarditis, such as the syphilitic, which we know begin in the connective tissue, but degeneration of the muscle fiber itself soon sets in to complicate the process. In fatty degeneration in simple atrophy and in brown atrophy of the heart, proliferation of the connective tissue can be found even at very early stages. Many and many a case of myocarditis is discovered only at the autopsy. Some give no symptoms during life, or, owing to complications, the symptoms are not significant enough to call attention to the heart condition present. One reason for this is that the heart muscle fibers are never entirely and uniformly degenerated, but patches of degeneration occur here and there. The healthy portions of the heart continue the work of the whole heart, although under unfavorable conditions, of course. When no macroscopic signs of myocarditis are present, they may be often found with the microscope. These microscopic lesions will sometimes serve to explain symptoms that were obscure during life.

It is becoming more clear from recent observations that not all parts of the heart are of equal functional value. When certain parts are degenerated there is much more disturbance of function than when degeneration occurs in other parts. When of two hearts one is much more degenerated than the other it may yet retain more of its functional usefulness because vital spots have not been affected by the degenerative process. Dr. Musser has called attention to the fact that the capillary muscles form one of these important parts of the heart. When degeneration occurs in them there is much more interference with heart action than if the same amount of degeneration occurred in the wall of the ventricle. There seems no doubt that the auricles are much more important in this respect than has been imagined. Dehio showed that fibrosis of the auricles is of much more frequent occurrence than was formerly supposed and that it is an extremely impor-

tant lesion so far as regards the functional integrity of the organ. The resultant loss of compensation is more than might be expected from the impairment of function of the auricles themselves. With reference to fatty degeneration of the auricles Dehio's observations have been confirmed and further amplified. Pulmonary edema is especially a result of myocarditis of the auricles. The ventricles may be proportionately more degenerated than are the auricles without the production of as serious symptoms.

Arterial Sclerosis.—Arteriosclerosis is usually considered a result of senility. As observations have become more and more searching, however, we have learned that it may occur also among those who are comparatively young. There are certain individuals who have a tendency to the development of arteriosclerosis in early mature life and who have also a marked tendency to myocarditis. One of the principal factors in the development of this tendency seems to be an abuse of tobacco. Considering how harmless the use of the weed is sometimes said to be, it is wonderful how many cases of early arterial sclerosis are associated with its abuse. Syphilis is another prominent cause of precocious arteriosclerosis. Heredity plays a very important rôle in the matter. In many patients in which distinct arteriosclerosis occurs before thirty years of age heredity will be found to be the main etiological factor. There are families in which at a certain period arteriosclerosis with certain cardiac changes are almost sure to appear. This may not occur before fifty or sixty, but they may occur at much earlier periods in life.

In closing the discussion, Dr. Musser said that he regretted that he had not declared as forcibly as he might have done the fact that myocarditis may exist without presenting the slightest symptoms during life. While the characteristic facial expression of patients suffering from myocarditis is one of the best differential symptoms of the disease, it is by no means always present nor was it his idea to present this symptom as one to be found uniformly. In the cases in which unsuspected myocarditis exists, there occur the fatal pneumonias and the fatal terminations of other infectious diseases in persons whose age and general appearance might lead one to think that there was every reason for them to survive the attack. Dr. Musser said that he was glad Dr. Janeway had called attention to the fact that hydrothorax frequently develops during myocarditis and that it is sometimes one of the first symptoms to which the physician's attention is directed. He was especially pleased that Dr. Janeway should call attention to the frequent existence of unilateral hydrothorax in these cases. Some time ago under the direction of Dr. Musser at the Philadelphia Hospital, Dr. J. Dutton Steele, in an article published in the *University Medical Magazine*, very thoroughly reviewed this subject. In a majority of the cases where unilateral hydrothorax occurs the condition is found to exist only on the right side. Dr. Steele found that this was due to the fact of the anatomical relation of the enlarged auricles to the veins of the thorax and especially of the lungs. The pressure exerted by the auricle on the veins is sufficient to interfere with the return circulation and in this way cause the exudation of serum into the pleural cavity of the left side.

HARVARD MEDICAL SOCIETY OF NEW YORK CITY.

Regular Monthly Meeting, Held January 27, 1900.

The President, Henry C. Coe, M.D., in the Chair.

Pain Pathognomonic of Ectopic Gestation was the paper of the evening and was presented by Dr. Henry C. Coe. It will appear in a subsequent issue of the MEDICAL NEWS.

In discussion Dr. Egbert Grandin said that the symptoms of tubal gestation are by no means so characteristic as might be gathered from reading the account of the condition in the ordinary textbook. A recent case seen by Dr. Grandin will serve as a very good illustration of this fact. The patient entered the hospital with symptoms of chronic endometritis and the history of sterility for a number of years. For the endometritis a curettement was suggested. During the operation the curette slipped away from the doctor's hands with the horrible sensation, which practically every gynecologist has had at some time or other, and which indicates that the instrument has perforated the uterine tissues. In order to be sure that no serious harm was done a laparotomy was performed, when it was found that the curette had only entered the subperitoneal space and had not penetrated the peritoneal cavity. An examination of the adnexa showed that the left tube was strictured at several points. In one of the sacculated distentions of the tube an ovum was found. Chorionic villi were demonstrated microscopically in this so that there was no doubt of the diagnosis. The woman had been married for a number of years. There was absolutely no history of menstrual irregularity. She had no idea herself that she had been impregnated. In fact a feeling of almost hopeless sterility had come over her. The accident of the curette perforating the uterus was really a most fortunate one for her. Had her condition been allowed to progress it is very probable that a rupture would have occurred after two or three weeks and a fatal result would have been almost inevitable. It may have been the existence of the extra-uterine pregnancy which caused the uterine tissues to be so succulent and non-resistant that they were easily penetrated, for no more force was used during the curettement than is usually employed. The case serves to illustrate very well the insidiousness with which extra-uterine pregnancy begins and develops. Despite the clear-cut indications given by the text-books there is no group of symptoms pathognomonic of the condition and none that more than suggest the existence of the

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condition. At best, the diagnosis is a surmise and not a settled thing.

Thirty Cases of Extra-Uterine Pregnancy.—Dr. Grandin has seen altogether thirty cases of this condition. Curiously enough, six of them were seen during recent years in consultation with a physician who said some years ago that he had not seen a single case of extra-uterine pregnancy, nor one in which he suspected the existence to be present, in his private practice notwithstanding all that has been said about the frequency of the condition and the number of cases that were being cited and discussed by gynecologists.

Diagnosis of Extra-Uterine Pregnancy.—In 50 per cent. of these cases there was a history of preceding pelvic disease. Nearly always the Fallopian tube was found at operation to be strictured at one or more points. In 80 per cent. of the cases there was severe abdominal pain. This was practically always colicky in character. One patient described it very vividly as being similar to the pain which she remembered having experienced after eating green apples when young. In many of the cases no coincident enlargement of the uterus could be found even after the most careful bimanual examination, although the textbooks set this down as an almost invariable symptom. Irregularity of menstruation nearly always precedes the occurrence of extra-uterine pregnancy. The normal menstruation lasts four to five days; then a period occurs which lasts only from one to two days, followed by others which last from seven to eight days. The rule seems to be for a relative diminution of the amount of flow to occur, followed by a comparative menorrhagia. In 90 per cent. of the cases there is either amenorrhea or the irregularity of menstruation just described. One symptom seems to be invariable, *i. e.*, a mass can always be found on one side or the other of the uterus, or behind that organ.

Mistakes and Complications.—The most usual source of error is a pyosalpinx, or an ovarian abscess. In eight cases in which operation was done extra-uterine pregnancy had been suspected, but a suppurative condition of the tube or ovary was found to be the cause of the symptoms. In one case they were due to appendicitis. In one patient, a single woman of thirty-eight, who was operated on for multiple fibroid, a pyosalpinx was found on one side and an unruptured tubal pregnancy on the other. Had there been a rupture of the gestation sac in this case diagnosis would have been extremely difficult, as the respectability of the patient was beyond all question. In one case in which after operation a double tubal pregnancy was found, one ruptured and the other unruptured, the patient did not think that there was the slightest reason to suspect pregnancy.

A Diagnostic Sign.—The finding of a mass in the pelvis is the most important symptom of extra-uterine pregnancy. The nature of the pain may lead one to suspect this condition, but the rounded, congested, mass felt in the vagina, with vessels pulsating, and atypical hemorrhage should cause one to insist on an examination under anesthesia. These symptoms always justify a posterior vaginal section if after examination under an anesthetic there still remains doubt. If free blood is found in the peritoneal cavity the diagnosis of extra-uterine pregnancy is practically assured. Operation may then be done from below if the operator considers it advisable, although Dr. Grandin's own preference is usually for laparotomy.

Cause of Pain.—The disputed point as to the origin of the pain in extra-uterine pregnancy has always been a subject of great interest. It seems to be due to hyperdistention of the tube, followed by slight rupture. The whole thickness of the tube may not give way at once, but certain fibers may be torn, and small vessels torn across, and finally, a complete rupture of the tube takes place. This intermittent tearing process seems to be the origin of the repeated attacks of pain. When such pains occur, if extra-uterine pregnancy is suspected, an examination under anesthesia should be demanded.

Appendicitis and Ectopic Gestation.—Dr. Brewer reported a rare combination of these two serious conditions. The patient was admitted to Charity Hospital complaining of a good deal of pain and a mass on the right side was plainly to be felt. The case was thought to be one of pelvic abscess and the course of it for a time seemed to justify that diagnosis. There was some improvement in the symptoms for three or four days and the patient seemed to be going on to recovery although the mass did not lessen in size. One day there was a sudden change for the worse. There were severe colicky pains, the temperature ran up to 103°F. and the pulse to 120. A posterior vaginal incision was made and blood was found free in the abdominal cavity. Laparotomy was done and an extra-uterine pregnancy was found. Rupture had occurred some time before and the extravasated blood had found its way up along the cecum and was firmly clotted. In the center of the clot a ruptured appendix was found. It was the rupture of the appendix which had caused the most recent symptoms and the organ was removed with the tumor of the extra-uterine pregnancy. The patient made a good recovery.

Importance of Pain.—In closing the discussion, Dr. Coe said that he had selected pain as the symptom of extra-uterine pregnancy most worthy of discussion because it was the one on which the most emphasis has been laid. In his experience there has been only infrequently a history of menstrual disturbance except that a period is skipped. Patients usually think that they are normally pregnant. The condition that is most hard to differentiate is incomplete abortion when complicated by tubal or ovarian disease. This has given rise to a series of reported mistakes and always requires the most careful consideration when making the diagnosis. In a recent case a very nervous woman who, after having been married for two or three months, missed a period

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and then had a grumous discharge from the vagina. She complained of a great deal of pain. Examination disclosed the fact that there was some enlargement of the tube on one side. A diagnosis of tubal pregnancy was made, but operation showed only incomplete abortion and salpingitis. The tumor is a most important symptom, but alone it can not be held to be of a very great significance. An abscess of the tube or ovary may pulsate in a way that simulates very closely the tumor of an extra-uterine pregnancy. The only way to decide that it is not an incomplete abortion with which one has to deal, is to curette gently, and if decidua are found the diagnosis is settled. To operate and find that the patient is only suffering from an incomplete abortion is a very trying situation in which a number of gynecologists have been placed. The difficulty of the decision is, however, so great that it would almost seem worth while to risk an occasional mistake which, after all, can have no serious consequences than to fail to operate upon a real case of extra-uterine pregnancy until too late.

Anuria for Ten Days.—Dr. Grandin reported a unique case of this kind occurring in his service at the Columbus Hospital. The patient had been weakened by menorrhagia due to the presence of a fibroid tumor. This was of the submucous variety and was so large that it completely filled the cavity of the uterus and rendered curettage impracticable. The patient had a diseased heart, was anemic, and suffered from parenchymatous nephritis. The vagina being very small and the tumor large supravaginal hysterectomy was decided upon. The woman's kidneys being diseased it was decided, although with some misgivings because of the condition of her heart, to use chloroform as the anesthetic. After the patient had been under chloroform for about twenty minutes, the house-surgeon became alarmed and substituted ether. The woman was under ether anesthesia for about one hour and she rallied without any unusual symptoms. For ten days after the operation not a drop of urine was passed. It was thought at first that possibly the ureters had been included in the ligatures, but careful catheterization of these tubes by Dr. Collyer showed them to be patent. For three days nausea and vomiting existed. Examination of the vomited matter, of the perspiration, and of the feces revealed the presence of traces of urea. The patient's intellect remained perfectly clear. There was no headache, no twitching, no visual disturbance, no abdominal pain. At no time for eight days was the pulse tense enough to demand nitroglycerin. Coma set in on the ninth day and at the end of two hundred and forty hours from the time of operation the woman died. The treatment was eliminative, steam baths, colon irrigation with hot salt solution, strychnine in large doses, etc., etc. It required six drops of croton oil to move the bowels at first; after the first movement they were kept freely open with salines. For the first five days the stomach retained nothing. Then the patient asked for some beer; this was given her and was retained. After that she drank about two quarts of buttermilk daily. This, then, was an instance of renal anuria, in other words, entire failure on the part of the kidneys to secrete urine. The only other question is the possibility of the inclusion of the ureters in the ligatures. When the absolutely symptomless course of the case after operation is considered, the absence of pain and of eclampsic seizures, this latter theory fails. Unfortunately, owing to religious scruples on the part of the husband, we were unable to obtain an autopsy. It would be interesting to know if there are any other cases in literature in which such protracted anuria has been observed.

Dr. Wilcox said in discussion that the longest case of anuria on record was one of about six days. It occurred in a woman who was suffering from diffuse nephritis who was operated on for a tuberculous knee-joint. The anesthetic employed was chloroform. As in Dr. Grandin's case, for five days there were practically no symptoms; then coma developed and the patient died.

Dr. Grandin said in answer to a question from Dr. Coe, who suggested that there might have been a lesion of the bladder, that the patient had been catheterized by a doctor or a nurse every four hours and that the bladder had been distended by fluid in order to perform catheterization of the ureters. Under these circumstances it would have been impossible for a leak of the bladder to have escaped notice, so that the lesion in the urinary tract must have been higher up.

Membranous Croup.—Dr. Daniels reported a case of nasopharyngeal diphtheria in which the Board of Health examination failed to disclose bacilli. During the week two other children became ill with the disease which resembled diphtheria very much, as there were extensive membranous deposits in the fauces and pharynx. A subsequent Board of Health examination also failed to disclose the presence of diphtheria bacilli. Notwithstanding this failure the cases were treated with diphtheria antitoxine, and the remedy seemed to have its proper effect. Two weeks after the recovery of the first patient, paralysis of the soft palate developed and then neuritis gradually became manifest in other parts of the child's body. Even certain of the nerves of the eyes were affected so that internal strabismus was noticed. The nerves supplying the cervical muscles were also involved and the head could not be held up straight. The palsy spread downward affecting all the nerves except those of the heart and of respiration. The paralysis is now so complete and so persistently progressive that there seems danger of a fatal termination because of the paralysis alone.

In discussing the case Dr. Wilcox said that death from postdiphtheritic paralysis is extremely rare. Some three or four years ago he had some cases under treatment in which the paralysis was so complete that he feared for the patient's life. Every muscle was lamed except those of respiration and, of course, the heart

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muscle. A careful review of the literature of the subject at that time showed that there were only two recorded cases in which death was due to postdiphtheritic causes. In both of these cases the muscles of respiration had been affected with the others. This shows the possibility of a fatal termination, but the rarity of the occurrence serves to demonstrate the fact that there is no serious danger of the affection proving fatal.

REVIEWS.

Essentials of Diseases of the Skin. Series of Question Compends. By HENRY W. STELLWAGON, M.D., Ph.D., Clinical Professor of Dermatology in Jefferson Medical College, Philadelphia. Fourth edition revised. Philadelphia: W. B. Saunders, 1899.

THE work at hand is simply a revision of previous editions. The author has brought it into line with the present status of our knowledge of diseases of the skin by many small but important changes in the text. Moreover, he has added to its comprehensiveness by the description of several of the rarer affections. Otherwise the book remains about the same as its fellows, and continues to maintain the high standard of excellence for which these question compends have been noted.

Microscopy and Micro-Technique. By ALBERT SCHNEIDER, M.D., Ph.D., Professor of Botany, Pharmacography and Materia Medica in the Northwestern University School of Pharmacy. Chicago: Chicago Medical Book Company, 1899.

THE microscope has become such an important instrument in the scientific world that a knowledge of its use is included in the most elementary training, and is a *sine qua non* for the expert in any field of natural science or medicine. Books upon its use multiply with the instruments. A very excellent type of guide-book to the beginner in schools and colleges is this neat laboratory manual of 190 pages, with ninety-five illustrations.

It is rather broader in its scope than one might expect, as it treats the microscope, not as a mere machine, but as an addition to the eyes. In it the laws of optics are emphasized with a detail that requires an elementary knowledge of geometry and trigonometry; but the practical working value of the book is by no means diminished by these mathematical considerations, since the technic is very plainly and simply set forth, and in such a manner that a beginner, either by himself or under laboratory instruction, could work out the principles that make him master of the lights and shadows, the refractions and the magnifications that extend the eye into the fields of the invisible.

It is a neat, thorough, and useful book that Dr. Schneider has prepared, and all beginners will thank him for having been so systematic and clear in his introduction to the subject of microscopy. The publishers have contributed their share to the good appearance of the volume. A large number of illustrations, the which, although taken from well-known sources, are excellently chosen, enhances the attractiveness of the pages.

THERAPEUTIC HINTS.

For Scarlatinal Desquamation.—The process can be shortened by three or more days by means of regular inunctions of a mixture containing one part glycerine and nine parts peroxide of hydrogen in fifteen-volume solution, acidulated with 1 per cent. hydrochloric acid. The entire body, except the scalp, is to be rubbed regularly with this mixture from the beginning of disquamation.—*Williams.*

For Dandruff.—

℞ Ac. salicylici 3ss
Chloralis hydrat 3i
Sodii sulphat 3iiss
Aquæ q. s. ad.....℥iv.

M. Sig. External use.

Separate hair, apply a few drops directly to scalp (a medicine dropper will be found convenient), and rub in well, and so on until whole scalp is treated. Do this every night for a week, then every second night for another week, when the head is to be washed with tar soap and the treatment resumed. The head should also be washed before beginning treatment.—*Elliot.*

For Chorea in Children.—

℞ Tinct. ferri malatis.....3ii
Liq. acidi arseniosi.....♏xvi
Aq. cinnamomi .....℥ii.

M. Sig. One teaspoonful twice a day after meals.—*Freyberger.*

Treatment of Ozena.—*Bommier* recommends the following course of treatment to be carried out by the patient:

Twice a day he is to take a nasal douche of boiled water plus a tablespoonful of salt to the liter, using for this purpose a Weber siphon, elevated about two feet above his head. During the douche he should breathe through his mouth, avoid swallowing, and keep the soft palate raised by pronouncing the vowel a. After the douche the patient is to introduce the following ointment into his nasal fossæ, using for each side a bit of the size of a bean, while holding his head backward:

℞ Menthol .....gr. iv
Ac. borici 3ss
Vaseline alb. .....℥i
Ol. geran. rosat.....gtt. xx.

M. Ft. unguentum. Sig. External use.

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THE MEDICAL NEWS.

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ORIGINAL ARTICLES.

A NEW AND IMPROVED METHOD OF ENTERING THE ABDOMINAL CAVITY IN THE ILEOCECAL REGION, WITH SPECIAL REFERENCE TO THE REMOVAL OF THE VERMIFORM APPENDIX.[1]

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IN selecting the site and method of the abdominal incision in operative attacks upon appendicular lesions, or surgical conditions which may simulate the latter, two cardinal points must be borne in mind: First, the parts within the abdomen involved in the intended operation should be brought readily within reach. Second, weakening of the wall of the abdomen must be avoided as much as possible by carrying the incision through the latter, whenever practicable, in the direction of the fibers of those structures upon which mainly depend the function of the abdominal wall in resisting intra-abdominal pressure.

The incision in all cases of appendicitis should be so planned as to include removal of the appendix. In order to accomplish this with ease and celerity the technic demands free access to the base of the organ. or its point of junction with the cecum.

Opinions differ somewhat as to the surface relations and clinical anatomy of the appendix vermiformis. The cecum, in certain exceptional instances, may be located at points distant from its normal location in the right iliac region, but, when normally situated, the relation of this portion of the large intestine as a whole to a fixed point upon the abdominal wall is fairly constant. Attempts to arbitrarily fix the exact location of the base of the appendix in its relation to the anterior abdominal wall, however, have proved futile for several reasons, among which may be mentioned the existence of varying points of attachment to the cecum in different individuals, variations in the width of the cecum, conditions of distention on the one hand and relative collapse of the intestine on the other, and, finally, to the mobility of this part of the large intestine as governed by its peritoneal anchorage. A true mesocecum is very seldom observed.

In my own experience ready access to the base of the organ is secured in the largest number of cases through an incision so planned that its center strikes a point corresponding to the intersection of a line extending from one anterior superior spinous process of the ilium to the other, with a vertical line drawn half-way between the median line and the right anterior superior spine. This differs somewhat from Clado's point, this observer placing the vertical line upon the outer edge of the right rectus abdominis muscle and locating the base of the appendix at the intersection of this with a line connecting the iliac spines. The varying width of the rectus muscle and the difficulty of locating this structure in individuals with a thick layer of fat in the abdominal wall constitutes a valid objection to the use of this as a surface guide. While the base of the appendix may be sometimes found as high as McBurney's point, in my own experience it has been most frequently located at the point I have indicated.

As to the second point: The abdominal wall is made up of structures whose functions in resisting intra-abdominal pressure vary greatly. For instance, the skin, fat, planes of superficial and deep fascia and the peritoneum, singly or combined, contribute but a small portion of the force-resisting qualities necessary to insure stability of the wall. For this we must look to the muscular structures and their aponeurotic expansions, and of these the latter are of the greatest importance. To conserve the integrity of these structures is, therefore, of the highest importance, and, following the rule, section of these should be made in the direction of their fibers in order to favor rapid repair and avoid as far as possible the presence of cicatricial tissue. Of the structures under consideration the most important in this region is that known as the aponeurosis of the external oblique. The importance of preserving intact this structure cannot be overestimated, inasmuch as failure of its incised edges to unite leads to bulging forward of the underlying muscle and the final occurrence of surgical hernia.

The next most important structure is the internal oblique and its tendinous prolongations The part of the internal oblique which concerns us most is that portion which arises from the middle third of its origin from the crest of the

[1] A portion of a paper read, with stereopticon illustrations, before the Associated Physicians of Long Island, at the annual meeting of that body, held at Garden City, June 24, 1899. The material comprising the paper, together with the cuts made from the drawings used for making the lantern slides, and of which the illustrations in this article are electrotype reproductions, was incorporated in the chapter upon operative treatment in the forthcoming new edition of my book upon Appendicitis. The material was placed in the hands of the publishers, but a disastrous fire destroyed the firm's plant, and for a time it was feared that my manuscript had also been destroyed. The latter was finally recovered from the ruins, but the delay incident to the fire has prevented the prompt issuing of the book. The simultaneous publication of Dr. Willy Meyer's article in the *Journal of the American Medical Association*, and that of Professor Weir in the MEDICAL NEWS, under date of February 17, 1900, has prompted me to publish at this time the method which I have employed for several years past and repeatedly demonstrated to the classes at the New York Polyclinic, as well as to those attending my other hospital clinics.

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ilium, the fibers of which pass obliquely upward and inward and terminate in an aponeurosis which divides at the linea semilunaris in such a manner as to embrace the rectus muscle, continuing forward and finally to the linea alba.

The transversalis muscle, the most internal of the flat muscles of the abdomen, is placed immediately beneath the internal oblique, its fibers, as its name indicates, passing almost in a horizontal direction. The portion of this muscle which is involved in an incision designed to reach the contents of the iliac region is its upper three-fourths, where its aponeurotic expansion to the linea alba passes behind the rectus, blending with that of the internal oblique to form the posterior lamella of the sheath of the rectus muscle.

Finally, the rectus muscle is to be considered. This structure is of importance mainly because of its function in assisting in controlling the effects of intra-abdominal pressure. Its importance as a surface guide is greatly overrated. In my experience the proportionate width of the muscle varies considerably. That portion which is of especial interest in our present study occupies anywhere from one-third to one-half of the anterior portion of the space located between the median line and the anterior superior spine of the ilium. Its principal interest in the present connection rests in the fact that its sheath is made up of the divided aponeurosis of the internal oblique, this being reinforced by the strong aponeurosis of the external oblique anteriorly, and the tendinous expansion of the transversalis posteriorly, the point where these join before enveloping the muscle constituting the linea semilunaris.

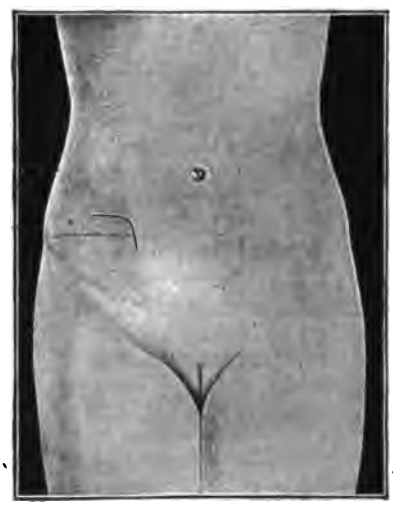
A glance at the nerve and blood supply of this portion of the abdominal wall will be of interest in selecting the site and direction of the incision in operating for appendicular lesions. The eleventh and twelfth intercostal nerves are distributed to the muscles of the abdomen. The last named is so placed as to be crossed by almost all of the usually employed appendicitis incisions. The first named crosses the linea semilunaris in a position to be injured in case it became necessary to extend the original incision in an upward direction in exploration of the region of the gall-bladder. These two nerves constitute the motor supply to the abdominal muscles. The ileo-inguinal and ileohypogastric branches of the lumbar plexus are regarded as purely sensory nerves. The first named, however, sends a filament to the internal oblique. Should the exigencies of the case likewise demand extension of the incision in the direction of the pelvic viscera, the ileo-inguinal branch would be more than likely to be divided.

These branches of the lumbar plexus pass from behind forward upon the transversalis muscle, between the latter and the internal oblique. The nerve structure of special importance in our present study is the twelfth intercostal. This passes from behind forward upon the anterior abdominal wall on a level with the lower margin of the umbilicus, where it describes a gentle curve forward and downward piercing the rectus muscle.

The twelfth intercostal nerve is accompanied by a branch of the twelfth intercostal artery, which is frequently encountered. The deep epigastric branch of the external iliac artery also lies upon the transversalis muscle in this region. It ascends vertically behind and just within the outer edge of the rectus muscle, accompanied by its venæ comites. The efferent branches of the latter join the veins at a more or less acute angle and, unless care is exercised, are apt to be injured in an incision placed parallel with and at the outer edge of the rectus.

Having thus briefly stated the anatomical points upon which may be based an ideal incision for gaining access to the ileocecal region, permit me to bring to your notice a new operative method particularly devised for cases of appendicitis operated upon early in the attack and while the infection is confined to the appendix itself, and for cases in which the operation is performed after the attack, sometimes erroneously called "between the attacks." It may likewise be employed in cases in which the infection is not widespread, for exploring the pelvic organs in the female, and for other operative attacks upon the contents of the ileocecal region. The operation is based upon the same principles as the intermuscular incision of Dr. McBurney, this being, in its turn, based upon the anatomical points just stated. The operation about to be described, differs, however, from that of McBurney in that it gives readier access to the contents of the ileocecal region, and a larger working space of the intra-abdominal manipulation without increase in the size of the external incision. As the incision is carried through the structures of the abdominal wall the most important of the latter are divided in the direction of their fibers, and the important nerves and vessels are avoided, thus inflicting the minimum amount of damage and encouraging rapid repair. As further advantages may be

Fig. 1.



The incision in the skin.

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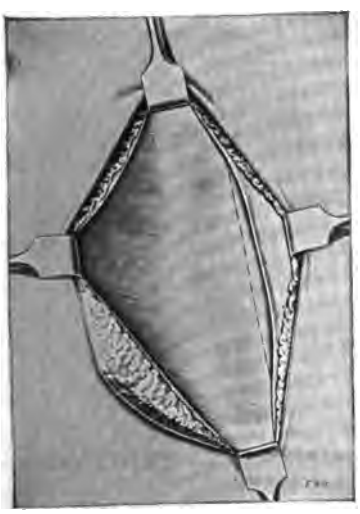
stated the relations of the three lines of suturing in closing the abdominal wound, and the fact that in suturing the long transverse incision extended beneath the rectus muscle, which really constitutes the important feature of the operation so far as gaining access to the appendicular region is concerned, this portion of the line of union is well protected by the overlying muscle.

Fig. 2.

The triangular-shaped flap reflected downward and outward, and retractors applied. The dotted line shows the site of the incision in the aponeurosis of the external oblique.

The Skin Incision.—The incision commences at the upper rounded prominence of the anterior superior spinous process of the ilium, is carried almost horizontally to the outer edge of the rectus abdominis muscle, from which point it is curved downward and extended parallel with the edge of the rectus for a distance of two and a half inches, or more, as required by the exigencies of the case (Fig. 1). The skin, fat and fascia are divided and the triangular-shaped flap with rounded corner dissected and reflected downward and outward, exposing the aponeurosis of the external oblique.

Fig. 3.



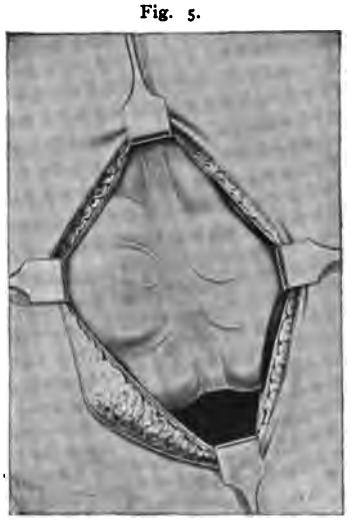
The internal oblique exposed, together with a portion of the sheath of the rectus muscle. The dotted line shows the site of the incision for opening the anterior lamella of the sheath of the rectus.

The Incision of the Aponeurosis of the External Oblique.—A retractor is applied at the lower angle of the wound and another at the middle of the horizontal incision. Traction upon these in the direction of the course taken by the external oblique exposes the latter for a distance of three or more inches, if necessary (Fig. 2). This structure is divided in the direction of its fibers to the extent of its exposed portion, two more retractors applied, as shown in figure 3, and the sheath of the rectus exposed and likewise opened. The rectus muscle and the underlying deep epigastric artery and veins are now retracted strongly toward the median line, the outer edge of the incised aponeu-

Fig. 4.

The outer edge of the incised external oblique retracted in an outward direction, and the rectus, together with the deep epigastric artery and veins displaced toward the median line. The dotted line shows the site of the incision entering the abdominal cavity.

Fig. 5.



All of the layers retracted and the cecum exposed.

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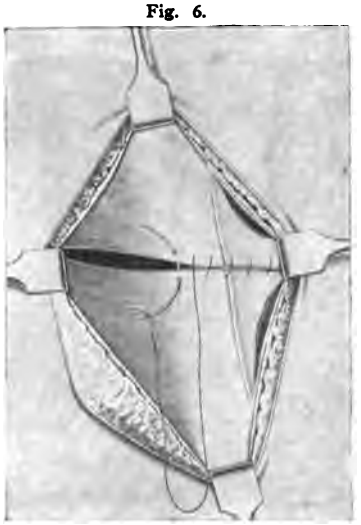
rosis being retracted in the opposite direction (Fig. 4). A space of four inches in its transverse diameter is thus exposed.

The Incision of the Internal Oblique, Transversalis Muscle and Fascia, and Peritoneum.—With the rectus well displaced toward the median line, care being taken to retract the deep epigastric artery and veins as well, and the outer edge of the incised external oblique aponeurosis retracted in an outward direction, the following parts are exposed: In the outer two-thirds of the space between the retractors is to be seen the muscular portion of the internal oblique, this terminating in the aponeurotic portion of this muscle at the point where the aponeurosis divides to enclose the rectus (the linea semilunaris). The inner third includes that portion of the exposed space left by the inward displacement of the rectus muscle, and is occupied by the posterior lamella of the sheath of the latter. In this space the transverse incision is to be made (Fig. 4). For the purposes of this operation the remaining structures of the abdominal wall may be considered as one layer, and the transverse incision carried directly through these in the direction of the fibers of the internal oblique and transversalis into the peritoneal cavity. The incision is commenced at the inner end of the space beneath the rectus muscle and access gained to the cavity of the peritoneum at this point first; after which, with the finger as a guide the section is completed. Retraction of the edges of the transverse incision will be found to give free and ready access to the region of the cecum (Fig. 5).

At the completion of the operation the parts are to be replaced and sutured. The transverse

Fig. 6.

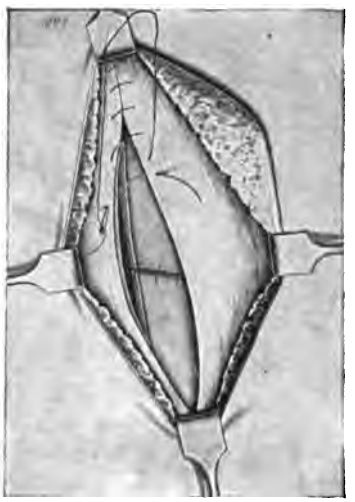


Closing the transverse incision.

incision is closed by a running catgut suture including all of its layers. In closing the incision in the external oblique aponeurosis care must be taken to include in the suture the incised edge of the sheath of the rectus muscle (Fig. 7). The muscular structure itself should not be included in the suture since the interposition of this between the incised edges of the sheath, which may follow the attempts to include the muscle, will prevent prompt union of the aponeurosis.

In view of the supreme importance of securing immediate, firm and permanent union of the aponeurosis of the external oblique it is best to em-

Fig. 7.



Closing the incision in the aponeurosis of the external oblique. The position of the needle shows the method of including the incised edge of the sheath of the rectus in the suturing.

ploy kangaroo tendon for the suture material in the case of this structure at least. Finally, the skin wound is to be closed. This may be done by the ordinary interrupted suture, although this, as all skin incisions, is best closed by the subcuticular suture.

The advantages claimed for this method of operating are as follows:

1. Ready access is gained to the ileocecal region, and ample room secured for all necessary manipulation in the class of cases for which it is designed.

2. Weakening of the abdominal wall and the liability to surgical hernia are reduced to the minimum by (*a*) incising the important musculo-aponeurotic structures in such a manner as to secure immediate, firm and permanent union; and (*b*) avoiding injury to the vascular and nerve supply of the parts involved in the incisions.

AGAIN THE QUESTION OF CANCER.[1]

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IF one may rely upon medical journals both at home and abroad as fair indices, the problem which most perplexes and interests the medical world to-day is still that of cancer. This must be my excuse for again bringing this subject before you. No better proof of this can be given than the timely appearance of the "Cancer

[1] Read before the Medical Society of the State of New York, Albany, January 31, 1900.

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Number" of the *Practitioner*, for April of last year, which aroused the greatest interest all over the world. A year ago I read before this Society a paper on this same subject in which, among other things, I dealt with figures and statistics. The figures themselves were taken from official sources, and, consequently, must stand. Certain conclusions which were drawn from them were challenged. Without permitting myself to be drawn into any controversy upon this aspect of the subject, I simply want to say that such conclusions are purely a matter of interpretation, and that in such deductions a personal element must always largely enter. I put upon them the interpretation which it seemed to me they deserved, with which, however, a few others could not agree. Nevertheless, such as they were, they have been unexpectedly corroborated and confirmed in a general way by writers at home and abroad, all of whom have studied the matter independently. This would-be correspondent of the *Lancet*, making comments upon my paper, drew forth from the editors of that journal a very positive sort of statement, which read as follows: "We may point out as a fact of some importance that Dr. Park's conclusion concerning the recent terrible increase of cancer and the concurrent decrease of tuberculosis in the United States tallies singularly with the experience of this country, and we are surprised that our correspondent, who is avowedly conversant with the literature of the subject, has omitted to notice our own observations to this effect in the *Lancet* of April 22nd, page 1111, and May 20th, page 1376, of the current year. It will thus be seen that in both cases the tendency of English national statistics is to confirm American experience as set forth in Dr. Park's article in the *Practitioner*."

To go minutely into this subject requires that kind of study of figures and of maps which can only be satisfactorily given at the desk, and it is not my purpose at this time to go into intricacies of this kind. I am perfectly willing, however, to reiterate the essential conclusion which I have repeatedly uttered and published, namely, that cancer as a disease is certainly upon the increase, and that the matter of its *rate* of increase is subsidiary to this principal fact.

When voicing this opinion, as I often have to, I have been frequently asked, "Is not this to be accounted for by improvements in diagnosis?" And some are so sure that the reply to this should be affirmative that they dismiss the whole question with that satisfactory, self-given answer. Such reasoning is, however, fallacious. It is true that improved methods of diagnosis prevail and the disease is now recognized as formerly it was not. It is also true that certain lesions formerly considered cancer are not so considered now; actinomycosis, for instance, and other of the infectious granulomata. This, to be sure, will exclude only a certain small percentage of cases. But one feature of this matter I have never yet seen alluded to in print, and this is that just in proportion as diagnostic methods are improved and operations attempted earlier, just in that proportion do we get actual cures and save these patients from dying of the disease. If, therefore, such improvements be regarded as they should be, it will appear that mortality rates are being actually reduced as compared with the real number of cases. To me this means a great deal, and I do not hesitate to say that it should be a matter of pride with the surgical profession that they may be able to reduce the death-rate, while, nevertheless, the disease rate is slowly creeping up. More important, then, than to study the deaths is to note the number of actual cases of cancer occurring, and I believe that the experience of every surgeon living will tally with my own in this regard.

Aside from the English statistics which I have elsewhere alluded to, which show unmistakable increase in the cancer rate, Verneuil, in 1893, admitted a progressive increase which he determined from a comparison of statistics of succeeding years; while Fabre, in Lyons, writing in 1892, came to exactly the same conclusion.

Concerning the contagiousness or infectiousness of cancer, we have now a number of studies from which it may be determined that in certain limited localities cancer assumes at times an endemic form. Guelliot, and Shattuck and Balance have described it in certain streets; Lucas-Championniere has seen it in villages, Arnaudet has described it in a small *commune* in Normandie, where he seems inclined to ascribe it to the cider which the inhabitants drink and which they do not manufacture in a hygienic way. Fiessinger is disposed to ascribe cancer to some parasite deposited by the bites of certain aquatic insects, while Haviland's views are now quite well-known, as well as those of Noel, who finds cancer in man most common in those localities where cancers in trees are likewise common.

A most cogent plea for collective investigation of cancer has been recently published by Katz[1] of Hamburg. He calls attention to the unsatisfactory explanation afforded by many of the theories now in vogue, and argues logically and convincingly in favor of the method by concerted investigation, and particularly the statistical method. It was Mars d'Espine who perhaps set us our first example in the direction of statistical study, when he reported the statistics for thirteen years in the Canton of Geneva, a careful study which has not yet found a sufficient number of imitators. The special interest of Katz's paper at present for us is the corroboration which his own studies afforded of the statement which I have so frequently made that there is every reason to think that cancer, as a disease, is upon the increase. Katz shows, for instance, from a study of Hamburg conditions, the experience of private practice and the mortuary as well as pathological statistics of the General Hospital there, as well as by the studies of E. Fraenkel, that in that city, especially, there is a well-marked increase in the percentage of cancer. Moreover this statement is accentuated by statistics from all over the

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world, which seem to show that not only is the disease upon the increase, but that the age of liability is becoming younger, and that it is rather the better classes of people than the lower in whom it seems to predominate. Katz concludes his paper by a recognition of the difficulty of collective investigation, and at the same time by a statement that it is of the greatest importance that it should be undertaken.

A topographical study of the disease will render great aid in solving some of its mysteries. As classical models for such study we may refer to Power's paper on "The Local Distribution of Cancer and Cancer Houses," in the April (1899) number of the *Practitioner*, the studies contained in the *British Medical Journal*, before July 1, 1899, with the editorial comments thereon, and the paper by Lloyd Jones on "The Topographical Distribution of Cancer," in the *British Medical Journal*, for April 1, 1899.

What could be more accurate, in such work, than Jones' method, which he describes as follows: "Having obtained the list of houses in which persons had been taken ill with cancer, I proceeded to visit the houses and to mark each one on an ordnance map—scale of ten feet to a mile—showing the affected and the non-affected houses in red and black respectively. This map of the borough showed at once that certain districts were fairly free from cancer, while other regions were far more extensively affected. The areas most affected of all showed 1 case in every 2 to 5 houses; the most healthy areas, from this point of view, showed only one case (or no case) in every 60 houses."

The figures obtained were as follows: Total number of houses concerned, 5685; unaffected houses, 5247; affected houses, 438; showing a mean of 1 affected house to every 11.9 unaffected houses. Multiple cases in the same house divisible into: (1) Double cases, 7; (2) triple cases 3.

But as showing what can be accomplished in rural districts in this same line of work, if only the necessary zeal and intelligence be applied to it, take the following illustration furnished me by Dr. John E. Sutton of Albion, Orleans county. He writes me: "During the last five years, or so, there have occurred from all causes, within a range of 1⅛ miles of a small hamlet near Albion, N. Y. (Rich's Corners), sixteen deaths. Of these nine were unquestionably from cancer; two were probably caused by cancer, judging from the history of the cases as learned from the friends. Of the remaining five one died of a pistol-shot wound, leaving four of the sixteen as dying of disease other than cancer. There are at present two cases living in the territory mentioned; one of them I operated on a year ago, without recurrence as yet; the other is beyond help." This letter is accompanied by a drawing which makes plainer yet the facts therein stated. I wish that this report of Dr. Sutton's might stimulate many others to similar study and report.

Lloyd Jones, in his paper above referred to, has summarized the views of various observers so succinctly that I reproduce a brief portion of it here: "Briefly, the following are the points which, in each case, several of the most trustworthy authors agree: 1. That cancer picks out certain districts, and that there are areas of immunity and cancerous areas (Shattuck, Noel, Gueilliot, Behla). 2. That immune areas may lie close beside cancerous areas (Pfeiffer, Noel). 3. That malignant disease is most common along the banks of rivers or streams (Pfeiffer, Haviland, Fiessinger, Noel, Nason, Blake). 4. That elevated districts or plateaux are more free from cancer, while low-lying districts carry more liability to its inroads (Pfeiffer, Noel, Haviland, Fiessinger, Nason). 5. That isolated 'cancer houses' or groups of such houses occur in certain districts (Pfeiffer, Fiessinger, D'Arcy Power, Scott, Chapman, Noel, Ogle, Guelliot). 6. That cancer houses often occur near to woods (Fiessinger, Noel), orchards (Fiessinger) or forests of firs (Noel). 7. That persons living upon flooded and clay districts and retentive soils are especially liable to its ravages (Haviland, Butlin). 8. That limestone districts are comparatively free from cancer (Haviland) but do not confer absolute immunity (Butlin). 9. That cancer may be disseminated by means of water (Fiessinger, Noel, Haviland, etc.); that it depends upon the presence of decaying animal or vegetable matter or sewage (Havilan, Noel). 10. Lastly, the suggestion its thrown out by three observers that insects may play a part in the dissemination of malignant disease (Morau, Fiessinger, Noel). Of these three the first is the only one who adduces anything like proof of his assertions."

Durante and Conheim believe that tumors proceed from embryonal remains; Thiersch taught a lessened resistance of connective tissue to epithelial encroachment; Hansemann and Hauser hold to an altered cell condition which they speak of as *anaplasty*; while Fabre-Domergue also believes in certain vague cell changes or cytotrophic alterations; and Ribbert regards tumor formation as unwonted cell activity and the escape of certain cell-groups through proliferating connective tissue. All these statements, however, seem to be rather descriptions of certain facts observed at various times, and they still leave the real question of *why* these cells act as they do quite untouched. It seems quite fair to assume that as a preliminary to cancer formation we must assume a certain *predisposition* of tissues, which may be general or local, inherited or acquired. This is no more than we fully believe to obtain in other diseases to which cancer shows more or less analogy. We see what local predisposition may do under conditions of chronic irritation where we have cancer following chronic eczema, catarrh, ulcers, scar formation, or gall-stone, diseased teeth, mucous patches or other syphilitic lesions, or in the presence of such foreign bodies as clay pipes, soot, paraffin, etc. It is, indeed, now a question whether such irritants as enzymes may not contribute to cancer formation.

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Again, in the way of local predisposition we see that nearly all cases of skin cancer occur on exposed parts of the body, face, hands, genitals or nipples; and when on other parts almost invariably on surfaces where there has been some such lesion, such as warts, eczema, sebaceous tumors, ulcers or scars. The only exception to this general statement is the hairy scalp, and yet this may be regarded as, in a sense, a well protected surface. Czerny[2] relates the case of a man whose foot he had to amputate for cancer which grew from the sole. This man had for many years, while a boy, worn a seton in the foot for the purpose of preventing goiter, in accordance with local superstition. It did not protect him from the goiter, which he acquired, and did cause the loss of his foot. If now Ribbert's views concerning disturbed epithelium and anaplasty are correct, why should it have taken twenty years to begin to form a cancer in this case?

Cancer is virtually never seen on the skin of the back save at points which are within easy reach of the hands. When it appears upon the face it is nearly always on those who do not use soap. The exemption of women from cancer of the lip is largely due to the fact that they do not smoke, and that their teeth when diseased fall out much easier and earlier than do men's. Indeed, Czerny's experience is that cancer of the lip is the only kind which is becoming less frequent, and that this is because pipe-smoking is perhaps less the custom, and the people are learning to take better care of their teeth. Cancer of the tongue is also found almost solely in men, because smoking, bad teeth and syphilis of the mouth mostly prevail in the male sex. Cancer of the ear begins nearly always on the upper and outer border, *i.e.*, the least resisting and most often irritated part, as by injury, frost-bite, etc., or else in those recesses which are hardest to clean. Cancer of the upper alimentary tract occurs by far most often at the site of previous lesions or irritations, *i.e.*, scars, fissures, etc. In the stomach and bowel we know that it is often preceded by ulcers. After food has been in one sense sterilized by gastric juice, bile and pancreatic fluid it seldom carries cancer germs, and primary cancer of the small intestine is a great rarity. In the ileocecal region and the colon it becomes common again, and here it is especially that stagnation of the fecal current permits it.

Particularly about the breast and nipple, where chronic mastitis, subinvolution, and ulcers or fissures furnish the local predisposition, do we meet with cancer. Here, also, inherited cell proclivities may play a large rôle. But to external influences must be assigned the major rôle, as well as to such lesions as eczema or intertrigo of overhanging mammæ, or the pressure of corsets. So, too, with cancer of the uterus. Chronic tissue changes furnish the site for most of these lesions, and especially scar tissue, ectropion of mucosa, etc., while cancer of the endometrium is apparently inseparable from catarrhal lesions, placental relics or diseases, etc. Even submucous myomata are accused of giving rise to cancer. The apparently prophylactic effect of circumcision is well known, since Jews relatively seldom get syphilis or cancer of the penis, but gonorrhea often. Cancer of duct glands is relatively common as compared with those of the so-called ductless glands, which latter suffer much oftener from endothelioma and angiosarcoma. The lungs, bones and lymph nodes are practically exempt from primary carcinoma, although not from sarcoma. Summarized, carcinoma takes its origin almost always at those places where chronic tissue alterations or scars have caused local changes which we may fairly regard as constituting a predisposition, or where retention of secretion or contents have produced the same effect.

While all this cannot be said for sarcoma, certain other features stand out predominantly, and are equally significant. For instance, we know other infectious diseases which produce tumors absolutely analogous to sarcomata, even in the possibility of their spontaneous retrocession. Syphilomata, *e.g.*, sometimes bear such a close resemblance to sarcomata that Esmarch was even tempted to think that the latter might have a syphilitic origin. We know, also, how long actinomycotic tumors were regarded as sarcomata. Ulcerating tuberculoma may also be easily and often confused with sarcoma. To this list we may well add Hodgkins' disease, leprosy, lymphosarcoma, certain phlegmons due mainly to streptococcus invasion, or to the micrococcus tetragenus, elephantiasis, rhinoscleroma, rhinophyma and certain skin lesions called by the dermatologists sarcosis cutis, lymphodermia, etc.

It is manifestly impossible to draw any sharp distinction between the true tumors and numerous other infectious lesions, whose parasitic origin is not now denied. We must, moreover, never lose sight of the analogies offered from the vegetable kingdom, where practically all xylomata or three-cancers (many of which are fatal to the trees) are due to invasion of parasites either before or after traumatism of some kind, even such as frost and ice may produce. We must remember that sarcoma of bone, like osteomyelitis, may be apparently produced after injury or exposure, and we can then view it only as the expression of the localized action of some parasite circulating with the blood, and setting up disturbance at the point of least resistance.

Autoinfection with cancer is by no means so rare. Implantation cancer of one labium from the other is not uncommon, and the vagina is not infrequently infected from the os. When colloid, abdominal and ovarian cancers were more frequently tapped than now implantation along the trocar tract was frequently seen. How often we see secondary cancer along the line of incision made for removal of the primary lesion, infected at the time. Czerny says that when asked if cancer is communicable he replies, "Perhaps not; nevertheless, best use extreme caution, destroy the dressings with fire, sterilize the clothing, and avoid common use of utensils, beds, etc." Czerny

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relates the case of a woman afflicted with breast cancer who was disposed to attribute it to wearing a corset previously used by an aunt who had died of the same disease.

In the middle of the last century cancer patients were not accepted in numerous hospitals. Because of this fact, Godinot, a priest in Rheims, erected a special asylum for them. But his neighbors protested against such a "pest-house" inside the city, and so he had to remove them in 1778 to a place outside. Not until 1841 were they again received into the Hotel Dieu, and even then they were isolated.[3] Instances must be known to many of you, as they certainly are to me, of various members of the same family, in one house, succumbing one after another to cancer. I have elsewhere called attention to Behla's remarkable study of endemic cancer in the little town of Lückau. There is no doubt but that many fungi can produce certain enzymes which have the power of exciting both cell proliferation and degeneration. So, too, Bejerinck, for example, has found that the juice pressed out from the larvæ of those insects which produce galls in trees has the same power of exciting proliferation of plant cells as have the larvæ themselves.[4]

Czerny and others have recently again raised the question as to the possibility of spontaneous retrocession of malignant tumors. This is a rare phenomenon in which I thoroughly believe, and to which I propose at some later time to devote special time and study. At present I am anxious to obtain data of carefully observed cases, and solicit your aid in securing them. Believing in it, as I am compelled to do, there comes up at once the query, how many cases of improvement after employment of erysipelas toxins or after exploratory operations may be due to it alone?

As already mentioned in speaking of Katz's paper, the number of cases of cancer appearing at what may be called precocious age is being constantly augmented by published instances. For instance, Dufour[5] has reported an epithelial cancer of the larynx in an infant of eight months: Czerny,[6] cancer of the kidney in a child of three and a half years; Kahn,[7] a case of pancreas in a child of two years; Reboul,[8] cancer of the testicle in a child of six and a half; Ganghofner,[9] cancer of the uterus in a girl of eight; Rosenstein, same in a girl of two; Krasnohoff,[10] epithelioma of the lip and nose in a child of eight years; I have seen the same thing in a woman of eighteen; Mariage,[11] carcinoma of the ovary in a girl of eight; Deschamps,[12] cancer of the liver in a child of eleven years; Moore,[13] cancer of the stomach in a child of thirteen; Scheffer,[14] another in a child of fourteen; Hirtz and Lesne,[15] epithelioma of the stomach in a youth of nineteen; and Gangolphe,[16] epithelioma of the lip in a child of 15 years. From other sources I gather the following also: Finlayson[17] has recently reported sarcoma of the stomach in a boy of three and a half years; Scholtz, carcinoma of stomach in a girl of twenty-two; Scheffer, same in a boy of fourteen; Hoffman saw it in a twenty-year-old soldier; Reinbrecht, in a twenty-one-year-old girl; Muth, in a twenty-four-year-old man, and Burger's statistics of 357 cases of gastric carcinoma gave 11 patients under thirty; Olshausen[18] relates cases of ovarian carcinoma in girls aged respectively twelve, nineteen, twenty-one, twenty-three and twenty-nine years. Leopold has had similar experience. Phocas[19] reports 5 cases of ovarian cancer in girls from seven to fifteen. Schröder[20] gives 33 cases of uterine cancer below age of 30 out of 2265 collected, and 22 out of 492 cases that came to autopsy. I have myself seen advanced and hopeless adenocarcinoma of both breasts in a young married woman of twenty-one. Haycock and Bryant have each seen one breast involved in women of twenty-one. In the Greifswald clinic, of 64 breast cancers removed in the last five years two were from patients under twenty-six. Ludlow and Lebert collected 51 cases of cancer of the testicle, of which 5 occurred in boys under five, 1 in a lad of fifteen, and in 11 others the patients had not reached thirty. Some, at least, of these must have been sarcoma.

I have seen sarcoma of the rectum in a patient of seventeen. Marchand has reported rectal carcinoma in a girl of sixteen and Cripps in a boy of seventeen. Billroth saw three cases of intestinal cancer between ages of eighteen and twenty, and Raspe has recorded a case of rectal cancer at age of twenty-eight. Von Bary has described a rectal cancer springing from an ulcus durum at the verge of the anus. Rose and Socin have both operated for rectal or colon cancer at ages of twenty-six and twenty-seven. Cumston[21] has collected several other cases of this same nature and has also reported carcinoma of the liver in a girl of nineteen, cancer of the cervix in a woman of twenty-eight, and rectal carcinoma in a young man of twenty-four. Fabre-Domergue has described an enormous, inoperable epithelioma of the thigh in a man of thirty. Socin operated in 1890 on a woman of twenty-eight for carcinoma of the vulva; Weinlechner on a man of twenty-four for epithelioma of the penis and Rose on a man of thirty for the same condition. It has happened to me to see an unmistakable epithelioma of the penis in a man a little under thirty.

It is never possible to get away from that question of fundamental importance, what is the cause of cancer? Realizing the futility of purely personal effort in the solution of so large a problem, legislative aid was invited and finally secured. By means of this a laboratory has been well equipped and manned for the purpose. This laboratory has been organized in order to study all that the problem includes, and in the broadest possible way. It is not committed to any particular view nor based upon a single idea. As the originator of that laboratory I wish to emphasize that my own papers on the subject, including this one, are not to be considered as anything more than my own personal views, save when so specified. When Dr. Gaylord thinks the time has come to publish the results of his investigations, and

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those of his co-laborers, then we may be said—as an institution—to stand committed to whatever views are at that time expressed. For myself, I have not hesitated to espouse the parasitic theory, for many years, and can only see in the labors of others, including those of my colleagues in the State Laboratory, constantly increasing confirmation of my beliefs. Yet these views are as largely the result of clinical as of pathological study.

The parasitic theory in explanation of cancer is that which is to-day most vehemently discussed. It is, however, far from new, for without going back to the views of ancient writers, Harvey[22] wrote that tumors resemble strongly those parasitic productions which we see in the vegetable kingdom, while John Hunter thought that cancer was caused by the presence of an entozoon, and Adams regarded an animal parasite as undoubtedly the cause of cancer. Of late, however, it has taken more particular form and shape, and is being tested by all the canons of modern scientific criticism. Enthusiasts, working under the inspiration of this theory, are easily tempted, however, to lose sight of the tumor side of the question while hunting for the parasite. I have elsewhere gone rather minutely into the arguments which may be advanced in favor of this theory, and, consequently, may be excused in this place from repeating them all. I would say, however, that it is not a question of any one parasite, nor at first whether these hypothetical parasites belong to the animal or to the vegetable kingdom. The primary question is whether cancer is due to intrinsic or extrinsic causes. Those who hold to the views recently enunciated by Ribbert may need again to be reminded of that to which Virchow called attention in his London address, namely, that to endow epithelial cells with all the properties and activities which his theory calls for is to credit them with much greater power than they possess upon their parent soil. It would seem that is is yet to be established that epithelium, leaving its own proper home and migrating, can acquire such enhanced activities as Ribbert would suppose.

Malignant tumors certainly constitute a morbid group which may be regarded as having strong family resemblances, and yet it is quite impossible to suppose that if of parasitic origin a single parasite should be solely at fault. One cannot imagine that epithelioma of the lip and sarcoma of bone-marrow are necessarily due to the same parasite. Here again, as so many times, we find a strong analogy between cancer and the infectious diseases. Suppuration, for instance, we know may be produced by any one of numerous organisms. We acknowledge its parasitic explanation while at the same time appreciating this fact. I want it to be emphasized that in all my own writings upon this subject I have never for a moment asserted all forms of cancer to be due to a single parasite, but believe that there are several, perhaps numerous organisms, which may produce this condition under favorable circumstances. If this be correct, we must first establish the general nature of the process and later try to identify the organism at fault.

When the State of New York by appropriation established a laboratory for the investigation of cancer it devolved upon those who had charge of the work to elaborate a rational plan by which the subject could be properly approached. Necessarily, the first steps in such an investigation had to be taken along conventional lines, and so extensive and yet scattered has been the work of various investigators of the subject that it has required a considerable period of time and no small amount of effort to thoroughly collect and classify the material at hand. It was decided in the beginning that the subject must be as much as possible approached from all sides, but the limitations of our appropriation have thus far rendered it only possible to carry out an elaborate pathological and bacteriological research. From the beginning the plan has been to add to these two sides of the question a complete and full investigation along chemical lines. Aside from the fact that our present quarters and appropriation have thus far not permitted our undertaking this third branch, the proper man was not apparent, and it is only within a few months that such a scientist has been obtainable. In making to you a short report of the amount of work which has been accomplished, I wish to particularly emphasize that much of the work which may at first glance not appear of great importance has been none the less necessary, and has required as great care and precision as work which we are at present conducting and which gives promise of much that is positive. Pathological investigation has consisted in histological examination of tumors hardened by all of the approved and modern methods, stained after various formulæ of different investigators and scrutinized with great care for the purpose of ascertaining to what extent and how constant were the various forms which different investigators have wished to interpret as parasites. We may say in reviewing this portion of the work that early efforts showed that while all of the various appearances described could be found in certain specimens, no method gave constant results. Likewise, we have been able to determine to our own satisfaction that histological investigation alone will never determine the nature of certain suspicious bodies which are to be found in carcinoma. As Dr. Gaylord stated before this meeting a year ago, examination of fresh tumors gave us more encouraging results, and we were able to determine the presence in all carcinomata of certain bodies resembling fat, but which could not be dissolved in ether or other fat solvents. Various attempts to harden and stain these bodies had met with only partial success when we came into possession of an article published by H. G. Plimmer, in the "Cancer Number" of the *Practitioner*. Plimmer had investigated during a period of six years over 1100 carcinomata, and by a special staining method which in principle consists in

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using a fat fixative, osmic acid, removing the same by oxidation with hydrogen peroxide, and staining with special reagents, has succeeded in demonstrating the presence in practically all carcinomata of certain characteristic bodies which we now are able to say are identical with those which had been observed by Dr. Gaylord in the fresh state. Plimmer's method furnishes further corroboration of the exceedingly close resemblance which these bodies in the fresh state bear to fat, and it is probable that the success of his method depends upon the fixation of fat-like substances which these bodies contain. Since employing Plimmer's method, Dr. Gaylord has been able to demonstrate in all carcinomata examined the characteristic appearances described by Plimmer. In many cases these bodies are very few in number and only prolonged search will disclose them. Plimmer reports some success in the cultivation of these organisms, and, although we have as yet been unable to obtain the organisms by culture, we are at present working upon an indirect method by which we hope we shall ultimately succeed in isolating the organisms in all cases where present. To indicate to you the fruitlessness of ordinary bacteriological research along old and classical lines, I will give you a short *résumé* of the large number of cultures which have been made in the State Laboratory from various tumors, and the results which these investigations show:

Number of tumors investigated bacteriologically, 42. Of these the results were as follows: Negative, 21; micrococci, 11; fungi, 1; contaminated, 9.

Number of cultures studied from these cases, 1226. (This does not include probably as many more, not recorded, but made and studied from cases ascertained later on not to be neoplasms, and cultures made and studied during the investigation of micro-organisms, especially yeasts and fungi not derived from tumors.) Average number of cultures from each case, 28. Sixty (60) different kinds of culture media were prepared and used in the investigation.

Total number of animals inoculated 118, as follows: (*a*) With fresh tumors, 46. Number of these dead, 32. Average duration of life, 78 days. (*b*) With fluids from fresh tumors or from localities (peritoneum, etc.) containing tumors, 22. Number of these dead, 22. Average duration of life, 73 days. (*c*) With cultures of micrococci or their products, obtained from tumors, 21. (*d*) With fungi, 10. (*e*) With tissues or fluids from animals previously inoculated, as above, 4. (*f*) New work on animals with yeasts, 15. Of which there are living, 9. Of which there are dead, 7.

Cases of tumors investigated histologically, 175. Cases worked out completely, 76. Cases for diagnosis alone, 99. Sections cut, stained and examined, over 2500. Blocks of tissue from animals, cut, 216. Sections examined, over 1200.

In analyzing these figures it will be seen, first, that the inoculation of animals with fresh tumors (46 times) has in no case resulted in the transplantation of carcinoma from man to animal; the animals have, however, in each case perished after an average period of time (78 days) showing symptoms of marked cachexia and with enlarged lymph nodes.

Our most recent work, by which we are introducing tumors into animals, employing another method, has resulted in the discovery of the fact that by the employment of proper staining methods the parasites found in cancer may be detected in large quantity in the enlarged lymph nodes of the experimental animal. This work is still in progress, and we are not prepared yet to publish it in full; but I wish merely to indicate to you the fact that even slight variation in technic may give totally negative or exceedingly positive results. In one case Dr. Gaylord succeeded in producing a true adenocarcinoma in an animal by inoculation with fluid from a soft cancer of the omentum. In this fluid was observed the presence of an organism which apparently belongs in the yeast group, and which we were unable to cultivate. The organism in the original fluid was injected into the jugular vein of a guinea-pig and after three weeks and a half the animal was killed; whereupon minute nodes of beginning adenocarcinoma of the lung were found. This is the first positive case of this kind, and holds out to us the definite hope that when we are able to understand the nature of these organisms we may be able to produce carcinoma in animals with organisms obtained from carcinoma in man. The laboratory is in possession of pathogenic yeasts which various investigators, Sanfelice, Plimmer, etc., have isolated from cancer, and we are now carrying on an elaborate investigation in the first steps of which we have been able to confirm all that Plimmer has published. The principal difficulty which we encounter at present is an entire lack of required knowledge on the part even of botanists of the nature of the organisms in question. These organisms are exceedingly polymorphic, and it requires prolonged experimentation to determine the relation between certain definite bodies found in the tissue, which are presumably these organisms, and the appearance of the same organism when grown upon artificial culture media. In this direction our recent experiments are rendering us great aid, and we have been able to confirm the identity of the bodies described by Plimmer and observed by ourselves in the fresh state, with the organisms which Plimmer has been able to cultivate. In his examination of 1100 tumors Plimmer has been able in only five cases to obtain a culture of the organism upon artificial culture media, indicating that the cultivability of the organism is exceedingly variable. Therefore, the large number of cases in which we have obtained negative results indicates nothing more than the fruitlessness of attempting to study organisms of unknown habitat by conventional methods. There are certain indications that the various forms of tumor are not produced by one

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organisms, or even necessarily by one class of organisms. This fact I brought prominently before you a year ago, and to-day I am able to give you definite confirmation of the same, in that from one pigmented tumor we have a pure culture of an unknown fungus, which under certain conditions produces a pigment identical in appearance with the pigment found in the tumor. We have likewise been able by special methods to stain the elements of the organism in the tumor. The experimental portion of our work we are not yet prepared to report upon.

I am quite sure that you will appreciate the difficulties with which we are confronted in the investigation of a subject which has so far baffled science, especially as the organisms which we are forced to study because of their presence in certain tumors, belong to classes with which the pathologist and bacteriologist have as yet had nothing to do, and whose habitat and characteristics are unknown. Only by comparative investigation of all of the species which we are able to obtain, combined with elaborate experimentation upon animals, shall we be able to reach definite conclusions regarding the rôle which these organisms possibly play in the production of malignant neoplasms. Having exhausted conventional methods, we have now entered upon a new field of research, based upon the knowledge which we have been able to acquire of these organisms, and although this work has not been under way for a great period of time I am sure that we have already indications which lead us to believe that the difficulties are not insurmountable.

In this work we have endeavored—and have succeeded to a limited extent—to arouse the interest and cooperation of the veterinarians who come into contact with a large amount of interesting material. To the personal interest of Drs. Wende and Zinc of Buffalo, for instance, we are indebted for some very interesting specimens from animals. Such as these we are always anxious to secure, and, consequently, I would appeal through you to them so far as you have it in your power to spread this request for cooperation.

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Medical Societies Exempt.—A bill has been introduced into the New York Legislature exempting from taxation the property of medical societies in cities of the first class.

NOTES ON PLAGUE.

BY MAJOR H. E. DEANE,
OF CALCUTTA, INDIA;
ROYAL ARMY MEDICAL CORPS.

(Continued from p. 286.)

MY next opportunity occurred in the Bangalore epidemic of 1898-99. I personally treated between November 20, 1898, and February 15, 1899, 568 cases, with a mortality of 50 per cent. At first I had no previous experience to guide me, and had many bitter disappointments, due, I decided later, to my using much too small doses. I used cobra and Lachesis chiefly, and occasionally Crotalus, with six deaths—one case being plague rience, I stuck to the cobra, as easily procurable in this country, and I gave it hypodermically instead of by the mouth. The crude poison of the other snakes could not be obtained in this country, so I had no opportunity of trying larger doses than I already possessed. I treated the last nineteen consecutive cases chiefly with cobra venom from 1/500-1/1000 (solution of the poison in glycerine), in some cases using Lachesis or Crotalus, with six deaths—one case being plague pneumonia. I am acquainted with no such result in unselected cases with any other serum. The treatment may be considered as a serum therapy, the snake venoms being toxalbumins. Although a record in detail is beyond my limits here, I send you the notes. In future I should confine myself to the cobra, and use the rattlesnake in hemorrhagic cases, an instance of which I have never seen.

Case I.—Andaloo (female), age 9. Admitted December 24, 1898. Ill three days with fever, severe rigors, and pain and swelling in right axilla. On admission, temperature 101.2° F.; pulse, 116; respiration, 46. Drowsy; unable to sit up or stand. Tongue coated and red at tip and margins. For the next few days her temperature ranged from 99° to 104° F., pulse 100 to 132. The pain in bubo was very severe. On December 29th she had great difficulty in moving her head; buboes had appeared on both sides of the neck, which increased in size; difficulty in swallowing came on; the swelling increased in the axilla and was spreading down the right arm, with great tenderness of the arm. Up to this time she had been taking naja tripudians (cobra) internally.

On evening of 30th there was difficulty of breathing and swallowing, and I blistered the skin over the swelling on right side of neck (her head was fixed towards the left shoulder), and applied tincture of crotalus (1-1000) to the surface, and gave apis m. v every hour. The next morning the pain was much less, although there was no difference in the size of the swelling. Breathing was easier, and the child had not quite such a distressed look. The swelling of right arm had spread to the elbow and was very tender. Apis was continued every two hours. On December 31st, temperature rose to 104.2° F.; but the next day, January 1, 1899, she looked brighter than she had hitherto been, and there was no danger

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as regards interference with breathing or swallowing. The cellulitis of the arm rapidly subsided. On January 3d, it was noted that the swelling was most marked over left angle of jaw. The further progress does not bear on any particular point. The right cervical bubo suppurated, and she was discharged February 14th, quite well.

This treatment seems to offer a great chance of success, and though all cases of plague do not call for it, I feel sure the cure of the fulminating cases will be found in this direction. I may mention that in many cases hyoscyamus has done wonders, and a case in this series will illustrate its action. Let me again emphasize the principle underlying the treatment, namely, a drug having a scientific connection with the patient's condition and then the single drug, alternated, if you like, with another singly administered drug; then and then only can one find out what does good and what does not.

Prevention.—I now come to the most difficult part of the subject, the prevention of the spread of plague. I shall confine myself to the means which have been adopted in India, with the results accruing therefrom. Nothing will be gained by inquiring into the preventive measures in the early centuries and the middle ages, as the results are obvious. During the epidemic mentioned as having existed in Cutch, 1812-1821, endeavors were made to stay the spread of the disease in the Ahmedabad district by preventing communication between infected and non-infected villages, and relations from a non-infected village were not even allowed to attend the funerals of those dying in an infected locality. Orders were issued that any inhabitants of a village who had visited an infected one was to be removed. The measures, however, did not stop the spread of the disease.

During the Pali outbreak, 1836-1838, endeavors were made to stop infection spreading by quarantine, and lines of cordon were established between infected and non-infected areas. The means adopted were ineffectual. When it is remembered how extremely difficult it is to make such a quarantine absolute anywhere, it is not to be wondered at that the system should have been unproductive of good results in a country where the inhabitants were at every device for breaking it. As to the merits of such a system, even if perfect, I will quote the opinion of Dr. Ranken, who investigated that epidemic: "The suspension of the internal trade of conterminous districts, depriving the farmer of a market for his produce, the merchant of the use of his capital, and consequently the laborer of his employment, diminishes or takes away that supply, in the continuance of which the improvident and penniless mass of the people depend to-day for subsistence to-morrow. Nothing, in short, appears to be more calculated than an efficient cordon to assist famine, disease, and with the concomitance of an impure atmosphere, the very infectious or contagious fever which it is intended to eradicate; the combined coercion, restraint and oppression subversive of the functions of society, which the system of quarantine involves, are inferior only to the horrors of plague when it actually prevails."

Again, Dr. Irvine, also engaged in the same epidemic, says: "From what I have myself observed of the plague, it appears that in a small place where only a few cases occur it is very easy to be eradicated; but let the malady once take a firm hold in a large, populous town, to arrest the progress of the scourge will be found in India an impossibility."

To come now to later times, and it will help to an appreciation of the difficulties to be met, to bear in mind the desiderata in combating the spread of any infectious disease, (*a*) early detection of cases; (*b*) discovery of the source of infection and cutting it off; (*c*) isolation of the sick, and destruction by fire or disinfection of articles which may prove sources of future infection. The series of epidemics which have prevailed over India started in Bombay in 1896; the source of the infection and the time of its appearance being unknown. So, two of the important conditions, early detection of cases and dealing with the source of infection, necessary for combating such a disease as plague, could not be fulfilled. When plague was declared in Bombay, on September 23, 1896, it was already prevalent over the city. I will endeavor to state concisely the preventive measures adopted and the results.

1. Efforts were made in the direction of general cleansing of insanitary spots, flushing gullies, lime-washing houses, and disinfecting premises where plague occurred. Result, plague continued to spread.

2. Proclamation was issued that cases of plague were to be segregated, and premises disinfected, if necessary, by force. Result, exodus from the city, riots, and more plague.

3. Eight days later another proclamation was issued, modifying the former one, and no organized attempt was made to segregate the plague cases. Result, plague continued to spread.

4. After the epidemic had passed its fastigium and was on the decline, a Plague Committee was formed, composed of a general, water-works engineer, member of Indian Civil Service, and medical officer in charge of an obstetric hospital, which proceeded to deal with the subject at the point of the bayonet. Houses were compulsorily searched, cases were removed to hospitals, and premises evacuated and disinfected. Result, plague continued to decline.

I held an appointment under this Committee and I can say that Bombay had never had such a cleansing before. The effect on the plague was not obvious; the compulsory measures were instituted when the epidemic was already on the decline, but at all events they promised well for cleansing the town of infection. The health officer of Bombay reports concerning the institution of the Committee that "it was a period of panic and irritation. The measures were followed by concealment of cases, and concealment led to the intensification of the type. The conditions ex-

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isted which it would have been necessary to create had it been desired to intensify the disease."

The promises as to the measures destroying the infection were not fulfilled; far from it, the disease began to display activity again in September, 1897, after a lull from July. Search from house to house was again instituted, but as the protecting presence of troops was withdrawn, very serious riots ensued. The system of attempting to get cases reported through Vigilance Committees, composed of influential members of the native communities was then started and failed. The end of it all was that the disease went unchecked and Bombay suffered from a more severe and virulent epidemic and a larger mortality than obtained in the first outbreak. The history was repeated yet a third time, and plague continues in Bombay. I think the lesson to be learned from the experience of Bombay is, what not to do.

The next outbreak with which I was personally concerned was at Bangalore, in 1898-1899. As Bangalore was connected by rail with infected areas in the Bombay Presidency, efforts were made early to prevent the entrance of infection. Inspection of all railway passengers was instituted, with power of detaining all persons coming from infected areas, and removal of plague cases to hospital, and of persons who had been in contact with such, to a segregation camp. The disease came nearer to Bangalore and infected it; and it was reported: "If any lesson is to be learned from the results of these measures it is that plague cannot be kept out of a place by railway, still less by road inspection." The disease broke out in two different localities almost simultaneously. One occurred on August 12, 1898, in the person of a man who had arrived the previous day from Hubli, a badly infected area. On August 13th plague was found in a family near the railway sheds at the station. Supposing that the first related case was a direct importation from Hubli, which is reasonable, there is nothing to show when or how the disease was introduced which affected the second family noted. This family consisted of coolies employed at the railway sheds, but whether the infection was brought by human beings, or fomites, or other means is unknown. The disease at first spread slowly, but by the middle of September was extending rapidly, reached its height in October and November, and in March, 1899, the epidemic ceased.

I will briefly summarize the measures adopted. At first an attempt was made to deal with the disease as had been done in Bombay, *i.e.*, by force; only, forcible house-to-house searching was not carried out. But before the people had experienced any severity, they determined not to have any plague measure at all; an exodus set in; passive obstruction of every kind was practised, and on one occasion active opposition raised. Every device was adopted for concealing cases; corpses were thrown out on the roads, removed into other quarters than those in which they had died, disposed of in wells and tanks, or secretly buried. The people would respond to no inducement to declare cases, and the better class of native offered no help; chiefly, if not entirely, in the former case, from dread of removal to hospital and segregation camp. Men were then placed in charge of districts to get information of cases in any way they could, and it was penal to dispose of a corpse without a medical certificate from a medical practitioner or a Government Medical Officer. At first native hakims were allowed to grant certificates, but as only nine cases out of some hundreds certified by these men were said to be plague, and such unique causes of death as from "perjury" and "the Grace of God" were declared, the permission to certify was withdrawn. Disinfection was carried out, patients found suffering from plague sent to hospital, and those who had been in contact with them to segregation camp. The number of people segregated was out of all proportion to the plague cases, and segregation was an obvious failure. The same thing has obtained all through the history of the disease in India. The difficulty of dealing with the outbreak was increased enormously by desertion and strikes among menial establishments; attendants for the hospitals had to be imported from elsewhere, coolies could not be got for disinfection work, or removing corpses, which had to be left in the houses for considerable periods. The organization was in working order when the epidemic began to decline, and any inferences drawn then as to the effect of improved measures hastening the downward course, I think, are practically valueless. As regards any result from the earlier measures, it was not in the direction of abating the disease, but from the concealment of cases, removal of sufferers from one place to another, indiscriminate distribution of corpses, all owing to dread of segregation, actually contributed to the spread of plague.

The third place in which I have had experience personally of plague is here in Calcutta. Here, again, we are defeated at the outset, the method and time of the introduction of plague being unknown. When I took up the appointment of Medical Charge of the Plague Department, there was no doubt as to the existence of the disease in Calcutta; this was in July, 1899. The early history of the subject, however, is very uncertain. There was a great professional disagreement among the medical men as to the diagnosis of cases; some said they had found the characteristic bacilli in the blood and declaring the patients to be suffering from plague, others equally emphatically denying that the cases were plague. In October, 1896, the Health Officer at the time said he had seen cases of plague which were declared by others not to be so. The former said that the drastic measures adopted by him stamped out the commencing epidemic. It will not be profitable to continue this part of the subject. The first cases about which there was any agreement occurred in March and April, 1898, and by the end of the latter month the disease began to spread. On April

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30th plague was declared in Calcutta, and the pronouncement was anticipated by the populace, and a panic set in from fear of prospective plague measures, including inoculation, resulting in an unprecedented exodus from the city, it being estimated that from one-fourth to one-third of the population left. The orders for dealing with the epidemic which were promulgated at the declaration of plague, on April 30th, were the Bombay Rules, house-to-house visitation, segregation of sick and those who had been exposed to infection, etc., but the orders were modified in that they provided for private hospitals and segregation camps for the better classes. Inoculation was recommended, but no suspicion of enforcement was to be allowed. Then followed a period of protest on the part of the populace in the shape of strikes and disturbances; during which a mob burnt an ambulance in the street, murdered an Austrian, who was an object of suspicion as an inoculator, owing to his carrying a hand-bag, and attacked an English medical man on plague duty who shot two men in self-defence. During this time the general health of the town was remarkably good, and there was a prevalent public opinion, shared by the native practitioners that there was no plague at all. This idea is still prevalent and fostered by certain sections of the press and by medical men. The total number of plague cases reported up to the end of July, 1898, was 190; so it will be noticed that the disease had not spread to anything like an alarming extent; and the area in which it was prevalent was comparatively limited and the most crowded part of the town. However, as no compulsory measures were practically put in force to detect cases, it is an uncertainty as to how many cases of plague actually occurred and, had they been enforced, we have seen that they would certainly have failed to attain such an object. The only measures adopted was disinfection of rooms where cases were found to have occurred. Calcutta was declared free on October 10, 1898; the total number of cases reported from August 1st to October 10, 1898, being 40. After October 10th cases of a more or less suspicious nature continued to be found; and in January, 1899, they increased, with no doubt as to the fact of their being plague, and on February 24, 1899, Calcutta was again declared infected.

I remarked just now that during the first outbreak compulsory measures, except as regards disinfection, were practically observed in the breach; and on February 24th, when plague was again declared, what I consider to be the first step in advance was officially taken in dealing with the epidemic in a large city. It was recognized that stringent measures were desirable, but experience in other parts had proved the desirability of modification, and improvements. The resolution issued by the Lieutenant-Governor of Bengal, Sir John Woodburn, ordered that no one should be compulsorily removed either to hospitals or segregation camps. In this way it was hoped that cooperation of the populace would be secured in bringing cases to light. This hope has not been fulfilled; and, with very rare exceptions, the only means of judging the extent of plague is by the system adopted here for the first time, of closely investigating the causes of deaths, from relations and friends. If the case be decided as one of either plague or suspicions of plague, this infection of the premises where the death occurred is carried out; articles destroyed are compensated for, and other articles are disinfected by steam. The only form of compulsion is that this disinfection must be performed; and no material difficulty has been experienced on this point. The people practically afford no help in reporting cases before or after death, even under these mild regulations; indeed, they make investigations into cases very difficult in various ways, which suggest themselves to their ingenuity; but, at all events, we have no disturbances, no strikes, no indiscriminate disposal of corpses; and, what is notable, no alarming prevalence of plague. This remarkable immunity of Calcutta, which, as regards insanitary areas, is enough to please the most fastidious of sanitarians, will be referred to again; but I will say here that I attribute it a good deal to the non-enforcement of compulsory measures, except disinfection. There are rare instances in which a second case has occurred in a room after disinfection, and as evacuation of premises is not enforced, the inhabitants reoccupy rooms perhaps as soon as they are dry, if not before.

History as regards plague in Calcutta, has not been consistently repeating itself. The exact extent to which the disease prevailed in 1898 is unknown, and no good will be gained by quoting figures. The fact which stands out clearly is that although plague obtained a footing, for some reason or reasons, the epidemic has kept within very moderate limits as regards incidence of cases, and this in spite of the fact that the infection has existed over the whole area of Calcutta. I have given one reason to which I attribute this, rightly or wrongly, and now mention other points having a possible bearing on the unique course of the disease in India, here. The population is approximately that of Bombay. The density of population in Bombay in the most crowded areas is from 503 to 670 persons per acre; in Calcutta, from 107 to 276. Cases have been more persistent in the areas here, showing the greatest density of population, 161 and 226 people to the acre. Bombay City is chiefly composed of streets upon streets of many storied buildings, with as many as 1000 to 3000 people under one roof. Calcutta, although in the large bazaar, consisting of high buildings, is also largely composed of bustees, collections of mud and wattle huts, with no second story. Plague has persisted in such bustees where the population has been thick, but I consider that the safety of Calcutta has been contributed to by this construction of the city, each inhabitant having a comparatively large breathing area. The idea has been suggested that the local conditions are not suited for the development of the poison. I suggest that some of the

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consideration so lavishly expended on bacteriological suppositions should be devoted to the social and sanitary improvements of the population. We know nothing and can observe nothing as to the likes and dislikes of the bacillus, except through the medium of the human being. There is enough dirt in Calcutta to satisfy any ordinary requirements of any bacillus, but the virulence of its nature is combated by some condition or conditions applying to the human population; and if less attention were paid to the bacillus and its necessary conditions for vitality, and more attention to the human being and his conditions making for immunity or otherwise, we should make more advance. In short, hitherto we have had hold of the end of the stick in the mud with the bacillus thereon; the *man* holding the other end has received scant attention. The condition affecting the man, which I consider to have contributed to the marked immunity of Calcutta is a small population per acre. Whether there are other conditions affecting personal habits, food, or any other circumstances concerning personal hygiene, is a question waiting solution.

I may conveniently here introduce examples of the possibility of stopping an outbreak in a limited population. They occurred in the Bangalore epidemic. A village, inhabited by dhobies (washermen) became infected, and was a source of danger to the Royal Artillery lines close by. A camp was built on an open plain and the people to the number of 543 removed to it. Cases had been occurring daily, and three cases occurred the day after the evacuation. The village was thoroughly disinfected, and the people went back fourteen days later. No more cases occurred. Another village, in a low-lying and unhealthy situation, became infected; and cases persistently occurred. A camp was built on some high ground near, and the people, 1700, removed. Three cases occurred within the five days following evacuation, and there were no more. Such instances show that the opinion as to the plague poison having a great predilection for localities to have good foundation, and are further exemplifications of its comparatively low contagious powers, once overcrowding is stopped, and the people get fresh air and light.

It is a matter of observation that some people have a natural immunity from infectious diseases, but, depending as it must on individual idiosyncrasies in a great measure and to a degree which we do not understand, the property does not help us in the face of a rising mortality in a large city. It is also a matter of observation that there is an acquired immunity in the case of vaccination and smallpox. This became known to us through an observed fact of nature, and not as the outcome of any theory. The principle on which nature works in that process is still a mystery; but we have the fact remaining. Efforts have been made to impart an individual immunity against plague by M. Haffkine, and although I personally think the subject very much *sub judice*, I will give the strongest evidence in its favor of which I am aware. I must first say that any figures dealing with preventive inoculations on Europeans are valueless in my mind; because Europeans in this country have been naturally immune. The few who have been attacked were particularly liable; only what might have been expected from the state of their health.

Preventive Inoculation.—M. Haffkine's fluid consists of plague virus cultivated in broth, the bacilli killed by heat, the broth and the dead bacilli being injected. The preventive results were carefully observed, under favorable circumstances for investigation, at an outbreak in Damaon near Bombay in 1897. The period of observation extended from March 26th to the end of May; 2197 persons were inoculated, and it was estimated that 6033 remained uninoculated. Among the latter there were 1482 deaths, a mortality of 24 per cent.; in the former there were 36 deaths, a mortality of 16 per cent.

In cases where inoculation has been practised, it has been done mostly when the epidemic was declining, and to take one instance, that of Poona, it is reported that no cases occurred in the hospitals among those inoculated; but that the inoculation took place during the decline of the epidemic, and in persons who were not living in highly infected localities, nor belonging to the classes that had chiefly suffered from plague. There is no definite idea as to the length of time immunity is conferred, and to induce a large population to try the experiment in this country is impossible. Any idea or suggestion of inoculation is enough to create panic or riots. Personally, I think the subject in too tentative a stage at present to justify authorities even strongly recommending it; and would in preference advocate an extension of the means we know to confer an immunity, *viz.*, light, air, food, and plenty of them.

In conclusion I will briefly review the lessons to be learned from Indian experience of plague and the difficulties to be contended with. The lesson which stands out in large letters is that the compulsory measures attempted have failed to have the desired repressive effect on the disease, because the populace have, to a man, been dead against them and the authorities. Governments of various provinces, instead of having the people with them, have had to combat opposition of all sorts, as well as devise means of fighting the disease; and the plague plus the inhabitants have won the day all along the line. Any measures to be really effective must carry the people with the Government. I may say at once that such measures have yet to be devised. The utmost consideration which is shown to the people here in Calcutta has failed to enlist them on the side of the Government in the direction of detecting cases of plague, or inducing them to report sickness of any kind. I think this may partly be accounted for by distrust as to what stringencies may be imposed on them, should the epidemic attain more formidable proportions. On the other hand, there is the initial dislike to being inter-

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fered with in any way; and it must be remembered that Occidentals, as well as Orientals, dislike their sick being removed to hospitals and their homes disturbed. The main line of objection to plague measures has always been a dread of segregation, with separation of members of families; and Government orders that no wife would be separated from her husband, or a mother from her children, have not succeeded in inspiring confidence. The people display an absolute apathy and indifference to plague, as a rule, but let the Government suggest means by which they may be spared the affliction and a panic ensues. Cases of illness are concealed with every ingenuity, and each one vies with his neighbor in giving false information. Violation of caste is made an excuse for objection to any preventive measures, such excuse having no foundation. Facilities have been given for the institution of private and caste hospitals, but no advantage has been taken of them. Ignorance, distrust and prejudice have held their sway, supported by superstition. Stories have been current that the British Raj is on the wane and that the Queen wants so many hundreds of heads to appease the adverse Fates. The better class of the native communities have been unresponsive to calls for assistance in allaying fears and too often have been the cause of fostering agitation both of an overt and covert kind. It is said in one Government report, "exuberant offers of moral and material assistance were received, but with the increase of the disease further cooperation was withheld, and it is a noticeable feature of the outbreak that Government officers were at no time afforded real and effective unremunerated assistance by any of the inhabitants. The tendency was rather to take advantage of the difficulties that arose for the purpose of private advantages and enrichment." Stories are set about that people are killed in the hospitals. The medical practitioners afford little or no help in reporting cases for fear of losing practice, and, moreover, falsely certify as to the cause of death, perhaps, we will charitably suppose, from ignorance. There is no registration of deaths in India, a fractional part of the population only being sure of any sort of medical man; consequently any cause of death which suits the fancy of a relative is entered at the burying ghat or burial ground. These difficulties need not be multiplied. The whole question is a medico-political one, in which medicine has to be subservient to policy. Medicine says, detect and deal promptly and decisively with the first cases; policy yet awaits a solution as to how to do that. Until that be solved I have no doubt that the policy obtaining in Calcutta at present is the best yet promulgated; get the population against Government as little as possible, provide a hospital for sick if they want to utilize it, if not, leave them alone, carry out disinfecting measures with a minimum of irritation, employing European medical men to supervise everything. One last word, as a guide for the future. Devote some of the labor and attention bestowed on the microbe with such unproductive results to the human being, who is the chief object concerned. Erection of light, airy habitations to replace filthy hovels, and total abolition of dirty, overcrowded areas will do more to stamp out plague than all the bayonets of the British Army. This takes time; time, moreover, counted not by months or years, but by generations. If the money spent on plague operations in India since 1896 had been expended even to half the amount, on improvements in Bombay City before the disease appeared, what a different tale there might have been to relate.

CLINICAL MEMORANDUM.

THE XIPHOPAGES, ROSALINA AND MARIA.

THROUGH the courtesy of the editor of the *Scientific American* we present the following account from its columns of the recent effort that has been made at the Hospital Misericordia of Rio

The Xiphopages, Rosalina and Maria.

de Janeiro, by surgical procedure to separate these remarkable twins. The operation was undertaken by Dr. Alvaro Ramos, an abstract of whose report was furnished the *Scientific American* with the accompanying photograph and radiograph.

"After the completion of the physiological experiments which proved the functional independ-

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ence of the system of Rosalina and Maria, I still had considerable doubts as to the nature of the tissues constituting the union of the two trunks, and as to the organs that might be found there.

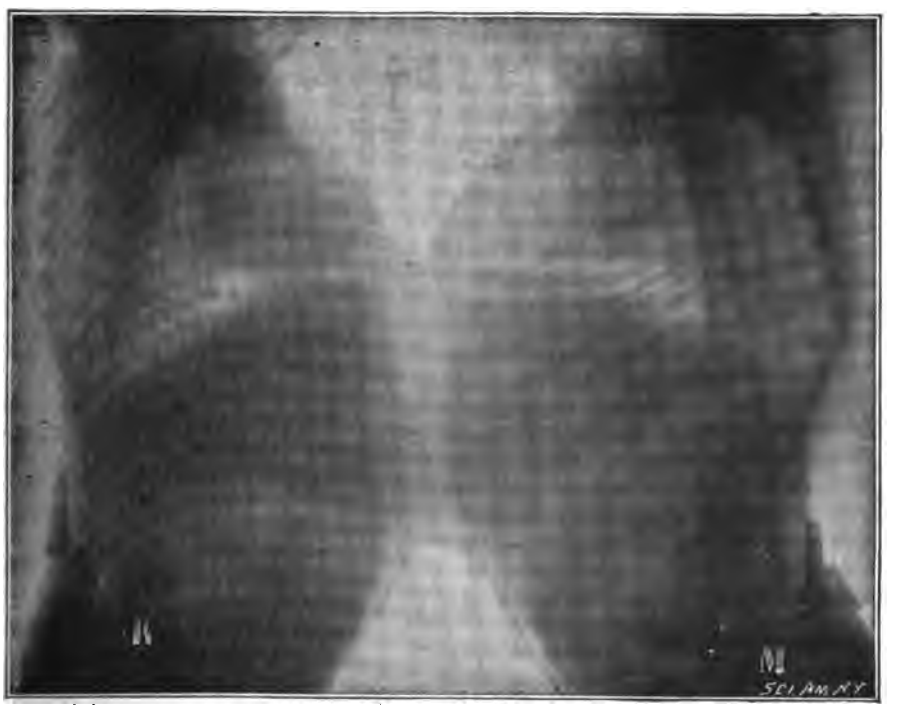
At the last radiographic exposures, which formed the experiments of Roux and Balthasar, strong doses of hyponitrate of bismuth were administered to the two girls, and owing to its opacity to Roentgen rays, this substance was revealed in the stomachs and in some of the intestine coils, thus proving that there is no connection of these organs in one abdominal cavity with those in the other.

Although I was much encouraged by this result, I still had no certainty as to the (possible) union of the livers, a point which could not be cleared up by the radiographs and to which my attention had always been directed, not only on account of the published results of five autopsies in similar cases, including that of the celebrated Siamese twins, but further for terato-genetic reasons.

After making up my mind to try an operation, I diligently took all possible precautions, in order that, if the desired result could be attained, the unsuccessful operation should at least have no disastrous effect. I proposed to begin with laying open the abdominal cavities; then to ascertain if all their organs were completely separate; and, finally, if the possibility of a complete separation was demonstrated, we should cut the cartilaginous ligaments which are at the base of the ensiform appendices and of the false rib; by preserving these ligaments until the end, we should insure the healing of the operative wound notwithstanding strains, in the event the operation could not be completed, as unfortunately turned out to be the case.

After fitting up two operating tables and the necessary appurtenances, and distributing the implements, Drs. F. Fajardo and Miguel Pereira were intrusted with chloroforming Maria, and Drs. Miguel Couto and Antonio Leao with chloroforming Rosalina. Fifteen to twenty minutes later the two sisters were perfectly anesthetized and laid on the first table—Rosalina on the right and Maria on the left; the side on which the thoraces were sunk in most was on top.

I began the operation by an incision of about six centimeters in the skin of the abdomen of Rosalina, a curved incision with the concavity facing toward Maria, distant, at the half height of the connection of the two bodies, about three centimeters from the median line.



Radiograph of the Xiphopages Rosalina and Maria.

The skin having been folded over toward Maria, I found on the median line of the connection the separation of the two recto-abdominal muscles, the right one of Maria and the left one of Rosalina. After moving these aside, as well as the aponeuroses, I first met the fat pre-peritoneal tissue, and then cut through the peritoneum common to both cavities. This opening I enlarged by continuing the initial incision downward four to six centimeters, to the lower end of the connection, leaving the umbilicus on Maria's side. It then became easy to recognize the separation of the intestines and of the stomachs, and to thus confirm the result of the radiographic experiments of Roux and Balthasar.

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Turning then my attention to the upper part of the incision, I discovered at once that her heart was not directed toward the right, confirming my previous opinion, founded upon the difficulty of auscultation on the left-hand side, and upon the entire absence of the kick of the apex.

Immediately below the diaphragms were the livers, united by the left lobes, which appeared to form a single body common to both livers, each of which had its particular gall bladder. At the height of the central line there was a suspending ligament, which, from its attachment to the connecting cartilage of the two ensiform appendices, extended to the common chamber of the two livers. In the hope that this ligament might be continued through the parenchyma of the livers, thus forming a septum separating the two lobes, I made an incision in this part of the common chamber, and, instead of finding a septum, I ascertained the continuity of the parenchyma.

I cannot indicate definitely the relative positions of all the other viscera, since the positions had partly been changed. I confined myself to ascertaining the extent of the surface connecting the two livers, and putting my right hand around them, with the fingers in contact with the lower or concave face, and the thumb over the convex top surface, I estimated that the surface to be cut would be about ten centimeters in length and three or four centimeters in width, corresponding to the thickness of the lobes at this point.

Such an operation with all the preparations for insuring hemostasia and the safe replacing of the livers in the abdominal cavity, in accordance with the latest methods of resection of the liver, would certainly require a considerable amount of time. This, added to the time already spent on the investigation, was more than these tender organisms could be expected to resist successfully, and every minute still further reduced their vital energy. I concluded to procede no further. The wounds were dressed in the usual way, and after being awakened without difficulty, the two little girls were soon pretty lively and did not exhibit any great prostration, it being remembered that the loss of blood was very small, since not one hemostatic ligature was required.

Thus the double investigatory laparotomy was fully crowned with success. While I did not achieve what I had hoped I might possibly be able to accomplish, I have at least the satisfaction of having, without injury to the patients, ascertained the conditions of the problem, the best solution of which we have to seek. With surgical methods now known, the separating operation would have a fatal result unless there should be found a method of reducing the parenchyma connecting the two livers, or unless, at least, such a reducing or regressive process should be brought about by some mechanical means.

Pharmacists Protest.—The Manhattan Pharmaceutical Association protests against the bill before the Legislature requiring poisonous mixtures to be placed in bottles of special design.

MEDICAL PROGRESS.

Therapeutic Application of Moist Heat.—Although dry heat can be borne in very much higher degree than moist heat, yet it is almost universally recognized that moist heat accomplishes far more therapeutically with lower temperatures than does dry heat with higher ones. Hugo Davidsohn (*Berlin klin. Woch.*, Jan. 29, 1900) says that the various applications in vogue for obtaining therapeutic effect with moist heat are the local steam or vapor baths, the Priesnitz and the cataplasmic methods. These last two methods are distinguished from each other in their effect, according to Quincke and Solomon, in that the Priesnitz applications affect only the superficial tissues, while a hot cataplasm of happy consistency stimulates the deeper tissues. There are two conditions limiting the application of these cataplasms, first, the degree of heat which various patients can bear and, second, the material out of which the cataplasm is made. As far as the first point is concerned the author says that he has known patients to bear comfortably a temperature of 117.5° F., while others are very sensitive to a temperature of 104° F. As for the material out of which the cataplasm is made, it is necessary that it have the requisites of being very plastic and that it is a poor conductor of heat. The substance best fitted for this is the mineral earth known as Fango. In addition to these advantages this substance is odorless, it does not decompose and, therefore, saves the skin from disagreeable maceration. In order that the patient may be treated with a higher degree of heat than he at first can bear, it is advantageous to subject him for an hour or two to constantly increasing temperatures when a surprising degree of tolerance is attained. This regulation of the degree of heat can be managed by an arrangement of the author's, which he calls a coil-mattress and coil-pillow. As the name implies, it is simple a series of coils or rubber tubing, simulating Leiter's coils, attached to a mattress or pillow which may be applied to any part of the body. This is supplied with water at the requisite temperature by a simple, portable arrangement.

Addison's Disease.—H. J. Campbell (*Quarterly Med. Jour.*, Feb., 1900) after noting the fact that about Halifax he had observed a number of cases of Addison's disease, discusses some of the more important features of this affection, more especially recent experimental work done with the suprarenal glands. The prominent symptoms of the disease, asthenia, muscular weakness, low blood-pressure, feeble cardiac action, headache, vertigo and the gastro-intestinal symptoms may all be explained, in large part at least, by the lack of the normal internal secretion of the suprarenal gland. Experiments of Langlois, who found that the disastrous results following removal of the adrenals might be averted if but one-eleventh of the gland is allowed to remain, also point in the same direction. The explanation of the pigmen-

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tation is a more difficult matter. The author believes that it is a reaction, protective or conservative in its nature. From the therapeutic side, cod-liver oil, arsenic, and protection from cold, offer the best general means for treatment. From a theoretical point of view the use of suprarenal extract should give good results, but up to the present time its efficacy has not been definitely proven. This lack of action is probably related either to some defect in the mode of preparation, or more probably to the method of administration. Administration by means of the mouth has given very irregular results and the experience acquired by ophthalmic practice has demonstrated how readily the extract may be altered and rendered worthless. The ideal mode of administration would be by intravenous injection in very small doses, but this is impracticable for continued usage. The mode of administration recommended is by the rectum, in the form of suppositories made up with a neutral fat. The amount required is very small, and it would probably suffice to administer a suppository night and morning over a long period, with occasional intermissions. The frequency and the dose would vary with the individual and should be determined by experience.

Lateral Ureterorectal Anastomosis.—Dr. Reuben Peterson made the following communication to the Chicago Academy of Medicine: "At a former meeting of the Academy, during the discussion of Dr. Lydston's paper, I referred to some recent experiments I had been making in uniting the ureters with the rectum. The ureters were passed under the muscle for a short distance and then made to penetrate the mucosa, various methods of suturing being employed to secure union between ureter and bowel wall. Infection of the kidneys, as shown by bacteriologic and microscopic examinations, occurred in all the animals that recovered from the primary operation. It was found that the infection in nearly every instance was proportionate to the amount of stricture of the ureters entailed by the operation. Thinking that ureteral stricture and subsequent hydronephrosis, by slowing of the stream of urine, might offer increased facilities for the passing upward of the colon bacilli, I set to work to devise an operation whereby ureteral stricture could be avoided. To those who have endeavored to unite the ureter with the rectum by passing the former through the wall of the latter, it is evident that owing to the compressibility of the ureteral wall and the excessive muscularity of the rectal wall, it is only a chance if stricture does not take place, either at the time of, or subsequent to, the operation. Hence, the two organs must be united by a lateral anastomosis if stricture is to be absolutely avoided, because here the opening can be made as large as required.

"With the assistance of Dr. Connell I finally succeeded in making a lateral anastomosis between ureter and rectum, employing a modification of the right-angled suture. The first few animals died because I failed to cover the line of sutures with peritoneum. This is necessary because the ureter cannot be safely punctured by the needle as can the gut wall, and must be protected by peritoneum for fear of subsequent leakage of urine into the peritoneal cavity. For this reason I do not believe the operation devised will ever be practicable for the human being, the danger of leakage even when the sutures are well protected being too great. The experiments were made for the purpose of determining if freedom from stricture had any influence in preventing an ascending infection of the kidney.

"The specimen which I present for your inspection effectually answers this question in the negative. The dog from which this kidney was removed was operated upon November 18, 1899. The left ureter was united to the rectum in the manner described. The peritoneum and loose connective tissue about the ureter were stitched along the line of suture. Nine days after the operation he was found dead. The left kidney was enlarged to double the size of the right. The pelvis of the kidney was dilated and contained pus, the bacteriologic examination of which showed the presence of colon bacilli. The ureter was not dilated, and the opening into the bowel was patent and allowed water injected into the pelvis of the kidney to pass freely into the rectum. The ureterorectal anastomosis was perfect and there was no leakage of urine into the peritoneal cavity. The specimen shows the changes typical of pyelonephritis.

"The infection in this case took place even more quickly than in the experiments where the ureters were buried in the muscles of the bowel and where a certain amount of ureteral stricture existed. So far as this case is concerned, a free flow of urine did not prevent an ascending infection.

"In addition to my experimental work on living animals, I am carefully studying microscopically the course of the ureters, through the dog's bladder wall to see if the direction of the ureters, the muscles with which they are surrounded, or the formation of the ureteral orifice can explain comparative freedom from infection when the ureters are implanted together with the trigonum into the rectum. The results of these studies will be given later when my experimental work is reported in detail.

"We know that Maydl has transplanted the trigonum together with the ureteral orifices into the rectum in a number of cases with success and his patients have lived a number of years and are apparently well. None of these cases have been examined post-morten, and it is not certain that infection of the kidneys has not taken place. The only experimental work upon dogs in which this operation was done that I have been able to find in the literature resulted in the immediate death of the animal, hence an opportunity of studying the condition of the kidneys was not afforded.

"This specimen which I show you now is from a dog where the ureteral orifice and a portion of

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the trigonum have been implanted in the rectum on one side and the other ureter cut away from the bladder and anastomosed with the rectum according to the old method I have spoken of. The differences in the two kidneys are apparent to the naked eye. The kidney where the ureteral orifice was implanted is normal in appearance, while the other shows the characteristic changes of pyelonephritis. Bacteriologic examination was negative in the first kidney, and showed large quantities of colon bacilli in the other kidney. The dog lived ten days and died from peritonitis due to a mural abscess.

"The reason for the large primary mortality in animals subjected to Maydl's operation is because of its complexity. I have read a description of the operation a number of times, and I find it far from clear. I have devised an operation for the anastomosis of the trigonum together with its ureteral orifices with the rectum, which is simplicity itself, and any surgeon who can successfully perform an intestinal anastomosis can perform the operation with ease. The majority of the dogs upon which I have operated by this method are living and at some future time will be killed and the condition of their kidneys carefully studied."

Hernias of Cecum and Sigmoid.—The radical cure of hernia consisting of cecum or sigmoid slipped down behind the ordinary hernial sac, has long been tried with but little success. Many surgeons close the wound without attempting reduction or cure. These hernias even when successfully operated on are unusually prone to recur. R. F. Weir (*Med. Record*, Feb. 24, 1900) discusses this subject and suggests an operative procedure giving hope of a permanent cure. As a matter of fact, these hernias are usually of the ascending and descending colon rather than of sigmoid and cecum. These portions of bowel usually uncovered by peritoneum posteriorly, slip down behind the hernial sac and form attachments to the deeper tissues, thus becoming irreducible early in their history. They cannot be positively diagnosticated before operation, but there are a few signs that help. They are most common on the left side in males at or beyond middle life. They usually give a history of early reducibility, but of not being controlled by a truss. Soon they become irreducible, and are then usually scrotal. Because of the frequency of this type, every large irreducible hernia should be approached by the knife with great caution and with full knowledge of the peculiar anatomical relations involved in order to avoid wounding the gut. Often one is at first confused by the presence of enlarged epiploic fringes. Having recognized the postperitoneal gut, what shall be done with it? It is hard or impossible to reduce by mere manipulation. The separation of the gut from its posterior attachments and its return to the abdomen is apt to lead to serious interference with nutrition, and to be followed by gangrene, fecal fistula or perhaps death. To excise the herniated gut and do an anastomosis within the internal ring is too risky. To simply close the wound with the hernia *in situ* is unsatisfactory to both surgeon and patient. Weir suggests the following way out of the difficulty, and has successfully operated on two cases. The posterior wall of the sac, which already is adherent to the front of the herniated gut, is dissected up, beginning at some distance from the gut on all sides. As the gut is reached, it is separated from its posterior connective tissue bed, up to beyond the internal ring. The peritoneal flaps derived from the posterior sac wall are adherent to the gut in front and are turned back and sutured over the posterior raw surfaces. In this manner the gut is completely surrounded by peritoneum and is then easily returned to the abdomen. The remainder of the sac is then dissected up, the edges due to forming the above flaps are sutured together, and then one practically has a sac like the ordinary one and proceeds as in other herniæ with the operation of his choice. Removal of cord and testes helps to obtain a permanent cure. The two cases operated on by this method have thus far passed eight months without sign of recurrence.

Finer Structure of Bacteria.—K. Nakanishi (*Münch. med. Woch.*, Feb. 6, 1900) has obtained some astonishing results with a new staining process which is applied as follows: A saturated solution of methylene blue is dropped on a slide and carefully spread, the excess then wiped away until the glass appears of sky-blue color. The remaining solution is then allowed to dry. The substance to be examined, suspended in some fluid medium in which the stain is freely soluble, has in the meanwhile been placed on a cover-slip, which now is inverted on the slide and at once examined. The results obtained were: (1) Nuclei of polynuclear leucocytes stained only after the cells were dead or had lost their ameboid movements. Large and small mononuclear cells took up the dye poorly. (2) Erythrocytes stained only when abnormal. (3) Malarial parasites showed all details of their internal structure with remarkable clearness, but the chromatin granules in the crescentic bodies were not seen. (4) All bacteria, including even the tubercle and leprosy bacilli, were well colored after life had been destroyed with formaline vapor. When young and grown under favorable circumstances they all appeared as short, mononuclear cells. The protoplasm had more marked affinities for the dye the older the organism, but always appeared homogeneous. The nucleus, which usually was round or oval and small, had a centric position and took on a more purplish color, and would leave the cell in presence of protoplasmic poisons. Great variations were found in the membrane; in some cases it was well developed, in others rudimentary or absent, especially in the young bodies. The mucoid capsule stained well where it was present, not, however, the flagella. Karyokinetic cell-division

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could be demonstrated; in some cases the cell did not divide with the nucleus, in others the new organisms remained united by a partition. When the nucleus enlarged and lost its property to stain, it became a spore.

Mulberry as a Diuretic.—The use of the leaves of the mulberry-tree as a diuretic is popular in Siberia. This formula is recommended: Leaves of the mulberry tree, 40 grains to 2 cups of boiling water. Let this steep eight to ten hours in a warm place and take a cupful in the morning and another at night. Continue this for three days. The taste is not disagreeable. The secretion of urine gradually increases: from 54 ounces at the beginning it rises to 62, 72, and finally 88 ounces. The subject of this observation was a man eighty-four years old, who had suffered for ten years with edema of the feet.—(*Bull. gen. de Therapeutique,* Feb. 8, 1900.)

Eulactol.—J. W. Frieser (*Klin. therap. Woch.,* Feb. 11, 1900) insists on the great importance of proper diet in all weakened and convalescent states. The value of concentration is obvious, and this property is best found in the various foods which flood the market. But high nutritive value, easy digestion, agreeable taste, and free solubility are no less important. Eulactol, a preparation made from eggs and milk and containing proteid, fat and carbohydrate, in proper proportions, seems to rank among the best and can be given up to about two ounces daily, in coffee, etc. It is especially indicated in functional or chronic gastric or enteric disease, tuberculosis, scrofula, rachitis, anemia, chlorosis, fevers and senile marasmus.

Observations on Brain Surgery.—After operating on forty-eight brain cases and performing many experiments on animal brains, G. W. Crile publishes (*Med. Record,* Feb. 17, 1900) the following observations. The immediate effect of increased intracranial pressure is not marked until the brain is compressed five to seven per cent. of its volume. Respiration is sooner and more profoundly affected than the blood pressure. Respiration is first slowed, then arrested. The higher the blood pressure, the higher is the intracranial pressure necessary to cause respiratory arrest, and when such arrest has occurred, if the blood pressure be increased respiration may be resumed. Increased intracranial pressure causes slowing of the heart, followed by intermissions and later complete arrest. When pressure persists, the inhibitory mechanism fails, and very rapid heart-action follows. With the brain under pressure, less anesthetic is required to cause surgical anesthesia, and the deeper the anesthesia the earlier and more abruptly respiration fails; both alternating rapid and slow pulse indicate an exhausted cardiac center, a fatal prognosis, and a very strong contraindication to operative procedure. At the same time the vasomotor system is exhausted. During operation an assistant should always be ready to do artificial respiration, and ice and hot water should be at hand for alternate application to chest and abdomen as respiratory stimulants. If respiration ceases and cannot be renewed, the skull should be opened as quickly as possible and the pressure relieved, when normal breathing will almost surely recur. The first effect of blows on the skull, gunshot wounds, rapidly increased intraventricular pressure, etc., is respiratory failure, while the heart continues beating for some minutes. Therefore, artificial respiration is an important first-aid in brain injuries, and since increase of blood pressure favors the return of spontaneous breathing, proper stimulation should be given. There is a well defined area, external to the olfactory tract and in front of the uncinate gyrus, stimulation of which causes arrest of breathing. This area rests directly against the base of the skull and is therefore liable to injury by either direct or indirect violence. In one case, dying of respiratory failure, after a fall, autopsy revealed a marked laceration of just this portion of the brain.

Basophile Granules in Erythrocytes.—While the observation that basophile granules occur in the red blood-cells in many cases of severe anemia is not new, M. Cohn (*Münch. med. Woch.,* Feb. 6, 1900) draws attention to the discordant views as to their significance. To determine whether they result from the degeneration of the nuclei or the cell-protoplasm itself, an artificial anemia was established in several rabbits by drawing off as much as one-third of their blood. The granules were not found at once after venesection, but appeared one or two days later chiefly in polychromatophilic cells, and many of these without granules were also apparent. The late appearance of these changes speak for cell degeneration, rather than breaking down of the nucleus. It is known that large losses of blood are followed after several days by a hydremic condition of the circulating fluid. This is also seen in all forms of anemia except chlorosis, and it is probably that it stands in definite relation with and is the chief causative factor in the cell changes.

Chloroform Narcosis.—A few weeks ago there appeared an article on this topic by Koblanck, in which he describes various symptoms pointing to early asphyxia in narcosis, and in the course of which he cites Czempin as not having properly recognized the significance of these danger signs. Czempin (*Centralbl. f. Gynäkol.,* Feb. 3, 1900) appears and says that Koblanck misquotes him. In his reply, Czempin states that the much advised method of drawing up the epiglottis directly with the finger at the outset of asphyxia, as also recommended by Koblanck, ought not to appear in any text-book on the subject as a means often to be employed. He has himself never practised this method. As a defense of his idea Czempin says that as chloroformed patients breathe exactly as do healthy persons when awake and breathing through their nose, so is it necessary in individuals with obstructed nasal passage

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to have a free entrance for air through the mouth. This is attained easily and best by drawing the tongue forward with a silk ligature through the end of the organ. If in deep narcosis, the tongue has fallen back, obstructing the entrance of the larynx, asphyxia results. At this stage it is necessary to free the laryngeal passage. The way to do this is to open the mouth, forcibly if necessary and to draw forward the tongue with the proper forceps. The pushing forward of the jaw will often also accomplish the same thing, indeed, if a tendency exists for the tongue to fall back, it is wise to keep the jaw protruded during the entire anesthesia—otherwise this procedure is not necessary. Another point to which Czempin wishes to call attention is that so often seen in debilitated patients. After a few whiffs of chloroform have been taken they suddenly stop breathing. If shouted at to breathe, they will recommence, but off and on during the giving of the anesthetic they will breathe irregularly or stop at times altogether. Instead of pushing the chloroform, as is so often done at this point, it is wise to desist for a time, for with this poor quality of respiration the heart perceptibly weakens. The author says finally that in old and weak patients he recommends Billroth's formula for the anesthetic: Alcohol 1, ether 2, chloroform 3 parts, to bring down the point of saturation of the drug artificially.

Guaiacum Reaction. — K. Brandenburg (*Münch. med. Woch.*, Feb. 6, 1900) has analyzed pus with the object of determining the nature of the body causing the blue discoloration when in contact with tincture of guaiac. The matter from a cold abscess was treated with chloroform-water. The sediment was filtered off and the remaining turbid fluid treated with acetic acid, the result being a heavy precipitate. It was found that this substance on purifying by repeated solution and precipitation, possessed the reaction to a marked degree. On ultimate analysis the presence of phosphorus and iron could be determined and the body was thus classified among the nucleo-proteids. Animal tissues in general have the property of adding oxygen to easily oxidizable chemicals, but vary considerably in the intensity with which they do this. Nucleo-proteids could also be extracted by simply digesting the various tissues with water; while the resulting compounds actively decomposed hydrogen dioxid they did not give the guaiacum reaction with the sole exception of the preparation obtained from bone-marrow. It thus seems that leucocytes differ chemically from the other cellular elements, but what is more important is the absence of discoloration noted in tissue rich in lymphocytes, *e. g.*, thymus. A positive reaction could also be obtained in many cases with saliva, probably due to the salivary corpuscles, and with purulent sputum and leukemic blood in considerable dilution. It is probable that the nucleo-proteid which has recently been isolated from urine in fevers, jaundice, and other morbid conditions, is not due to leucocytes, but is derived from the fixed tissue-cells since the reaction failed in all cases.

Malaria.—In an exhaustive lecture on this subject before the Italian Association, A. Celli goes deeply into the epidemiology of malaria, discussing the source of infection, the transportation of the germ, the invasion of the disease, the disposition, receptive or otherwise, of the patient, and the prophylaxis to be observed. The address (*Berl. klin. Woch.*, Feb. 5 and 12, 1900) is in substance as follows: (1) Source of infection; man is the medium and the mosquito is the real host of the malarial parasite, for it terminates its asexual life while with man and develops its full sexual existence while in the mosquito. This explains the possibility of the constant development of the plasmodium outside the body of man. The presence of both man and insect is necessary, however, to complete the so-called "infection-cycle;" for the germ, completing one period of its existence in one host, transfers itself to the other in order to develop its further growth, whence it again seeks its original home. No mosquito can infect another; such infection necessarily procedes from man. Therefore malaria is a typical infectious disease. The chief species carrying the germ is the *Anopheles claviger*, which may easily be recognized by the four black spots on its wings! Water and earth can only be considered as secondary or accessory in the infectious process in that they contain the larvæ and eggs of the insects. (2) The transportation of the disease; the name of the disease *mal aria* contains in itself the notion of bad air as the causative factor and it is believed that the disease germs are in the atmosphere in the greatest numbers about dusk and during the night. The germs arise from narrow bordered heaths and become diffused within limited areas. Winds do not scatter them about; but, on the contrary, lessen their number in the atmosphere. Forests serve as centers of origin of the miasma. These facts strengthen the modern theory of the transmission of the disease by the mosquito, inasmuch as this insect lies hidden at daytime, coming out about twilight to pursue its nefarious work; it never flies far from its birthplace and does not fly high in the air; and in a fairly strong breeze does not come out at all. The mosquito furthermore has his domicile in the damp woods and in trees.

The data concerning the epidemics of malaria serve to prove that neither water nor vegetable foods, nor still the inhaled dust, all of which have been given as causes, are to be regarded as causative factors. (3) The invasion of the germ takes place through the skin, it becoming inoculated through the sting of the insect and the sporozoa thus transferred. (4) Not a single epidemic can be fully understood if consideration is not taken of the enormous importance of disposition to, or immunity from, infection. Such disposition or immunity may be divided into organic, local, and social. (*a*) Organic; a chilling of the body dis-

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poses to the infection; children especially are prone to catch the disease, the greatest mortality from it being in the ages from five to twenty years. No race is immune. In some malarial localities, however, there are individuals who in spite of all excesses and indiscretions never seem to be attacked; they seem to possess some hereditary immunity. Artificial immunity may be gained by the use of certain drugs, notably quinine and methylene blue. (*b*) Local; there exists no kind of ground which might be designated as unfavorable for the development of the plasmodium. As far as water is concerned, it is necessary in that it supports the life of the larvæ. The great source in this respect is the fresh water ponds, while saline waters—rivers, lakes, bays, etc., opening into the sea, are notably free. (*c*) Social; it need only be tersely stated that social conditions, *i.e.*, food, domicile, clothing, occupation, are great factors in disposing the individual to attack in epidemics or on the other hand in immunizing him from its ravages. (5) Prophylaxis; as is always the case, the diagnosis must first be firmly established by microscopy before a rational prophylaxis can be undertaken. The patients must be isolated, as the disease is certainly an infectious one through the medium of the mosquito. This isolation may take place in any locality where no mosquitoes abound. Disinfection of the blood by means of quinine must be early practised. The only practical method of disinfecting the insects and their larvæ is to destroy both. One of the best preparations to use for this is crude petroleum. It is poured on the marshes and bogs so that the whole sheet of water is covered with a film. Other substances used are the pollen of unopened chrysanthemums and several of the anilin colors. To protect the skin of the body against the insects' attack a soap of turpentine is very efficacious. It is largely used in Italy by officials having to perform night-duty. Sanitary precautions in malarial districts, the regulation of sewerage, the prevention of stagnant water, all serve to keep out the disease. As far as the immunization of an individual visiting an infected district is concerned, all that can be said is to pay close regard to all the points above enumerated and add "*unum facere et alterum non omittere.*"

Carbonic Acid Applications.—The results of the Nauheim treatment on diseases of the heart and circulatory systems have stimulated investigations into methods of obtaining artificial carbonated thermal baths. R. Hatschek describes such a method in the *Wien. klin. Rundschau* (January 28, 1900). He quickly applies a paste of bicarbonate of soda to the body of the patient and follows this with wrapping him in a cloth saturated with weak hydrochloric or acetic acid. By occasionally wetting this cloth with the acidified water, a very lively effervescence is produced and the production of carbonic acid is well developed. It is also worthy of notice that the production of the gas goes on even within the skin, for the paste finds its way through the pores and meeting the acid secretions of the sweat and sebaceous glands is converted into carbonic acid gas. The gas evinces its efficacy directly upon its production by its action on the capillaries and nerve-endings in the skin. Beyond this, its too great activity is somewhat hindered by the cloth wrapped about the patient. The action of the gas is shown by the originally constricted blood vessels and cold, cyanotic extremities returning to their normal state and assuming a ruddy healthy glow. The rubbing and other forms of friction take much longer to accomplish this same result than does the gas when formed in this way. For one application for an adult, about two ounces of sodium bicarbonate were found necessary, producing at the ordinary temperature of the room nearly 16,000 cubic cm. of carbon dioxid. In preparing the paste several teaspoonfuls of warm water should be mixed with it in order not to chill the body before the cloth is applied. The application must be made hurriedly and the parts of the body may remain covered alternately, while the others are being treated with the paste. The acidified solutions are to be markedly thinned and diluted in order that no inflammatory reaction on the part of the skin follows. When properly done, this procedure is at least as good as, and often far better, in its results on the circulation and heart, than the bathing with natural carbonic waters at Nauheim itself.

Treatment of Hysteria.—In the *Indian Medical Record* of Calcutta (January 10, 1900) Surgeon Major R. E. Wrafter of Dehra Dun recommends certain procedures in the treatment of hysteria. The first object is the relief of the patient during the actual paroxysm. If the attack be severe and protracted care is to be taken that the patient does not injure herself. Cold water to the face, fresh air, rubbing the temples with spiritus ætheris comp., are often effectual to stop the paroxysm. It is usually impossible to give medicine by the mouth, as the teeth are either tightly shut or the power of deglutition is lost. Should it be possible, however, it may be advisable to give internally a mixture of spirits chloroformi, spirits ætheris comp., and aqua camphoræ together with tinct. lavendulæ comp. If this cannot be done, an enema of ol. terebinthinæ or tinct. asafœtida may be employed to cut short the attack. In the interval between the attacks, internal medication may be employed to advantage. The indications are to allay the excitability of the nervous system and to improve digestion. In plethoric patients, cathartics, low regimen and regular exercise are useful. In languid patients, tonics are indicated. Myrrh, bromide of potassium and cinchona, a course of mineral waters, daily exercise, tepid bathing, and generous diet will prove very efficacious as adjuncts in the treatment. Aromatic distilled waters are useful as carminatives where flatulency is present. Hysterical patients should never be roughly treated and above all, the physician must always be careful

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that no other disease coexist. Some management of the mind looking to its greater stability is also very useful when properly carried out. A woman can often by well-timed firmness on the part of the practitioner, resist the tendency to an attack. In cases of hystero-epilepsy of the ovarian type, the attacks can be arrested at any stage by forcible pressure on one or the other ovary. It is extremely difficult, however, to recognize these cases and to distinguish them from pure epilepsy.

Predetermination of Sex.—This has been a most interesting subject of discussion in the medical journals since the publication of the theories of Dr. Schenck, founded on the belief that the ruling factor was in the kind and amount of food which the mother partook during gestation. A new theory which claims to have been proven in practice is now advanced by Dr. J. G. Davis (*N. Y. Med. Jour.*, Feb. 24, 1900) who reports that she has during the past twenty years been able to predetermine the sex in all cases where an attempt was made, provided her rules were followed. Two failures were easily explainable and aid in proving her theory. The monthly cycle is divided into three parts; one, from three days previous to menstruation until eight days after the cessation of the flow, during which time only girls are produced; second, from the eighth to the tenth day after menstruation, when either boys or girls may be produced; third, from the tenth to the fifteenth day, when only boys may be conceived. During the remaining period she believes a woman to be practically immune to the dangers of conception. In her experiments she has further noticed that when impregnation occurred on the eighth or ninth day, besides the sex being indeterminate, a boy would oftentimes be somewhat effeminate and a girl rather masculine in her characteristics. Thus by the mere practice of self-denial or absolute continence for a certain number of days, the sex of the offspring may be easily predetermined, and happiness brought to many otherwise dissatisfied homes. She founds her theory on the belief that the vibratory law of Nature governs this phenomenon as well as all others, and that the rate of vibration in the female which is higher during ovulation and lower at other times will cause the conception of a girl or boy respectively, according to the vibratory condition in which the mother happens to be at the time of impregnation.

Gastric Ulcer.—Cases of gastric ulcer are, no doubt, frequently diagnosticated as chronic gastritis on account of the similarity of symptoms, but largely due to the lack of a thorough examination of the patient. B. Reed (*Internat. Med. Mag.*, Feb., 1900) points out the important diagnostic features. The three cardinal symptoms are, pain, hemorrhage, and circumscribed tender spots. The pain, as a rule, begins soon after the entrance of food into the stomach and often remains until vomiting occurs, or until the food has been passed on to the intestine. The fact that the pain is absent when the stomach is empty and much less when liquid food only is taken is almost diagnostic. The hemorrhage may be observed by the vomiting of fresh blood, or dark changed blood, or by the passage of tarry stools. Marked circumscribed tenderness in the epigastrium just below the ensiform cartilage and to the left of the median line, and also on the left side of the spine over the origin of one of the last three ribs, is a most constant symptom. Vomiting of food after eating is seen in so many diseases that it is of less diagnostic value. Vomiting usually occurs from one-half to two hours after eating and is followed by cessation of pain. This distinguishes it from carcinoma. An almost constant excess of hydrochloric acid is one of the important corroborative signs of gastric ulcer. The appetite is usually good and may be excessive. Marked anemia is frequently present. The most liable complications are (1) fatal hemorrhage; (2) perforation with localized or general peritonitis, or (3) a subphrenic abscess.

Peripheral Neuritis and Arsenic.—In the *Medical Chronicle* (February, 1900) F. C. Railton has reported four cases of chorea treated by arsenic at the Manchester Clinical Hospital in which serious symptoms of paralysis developed. The ordinary toxic symptoms of stomach trouble, diarrhea, puffiness of the eyes, etc., were noticed in only one of these cases, and the paralysis, which affected the lower extremities principally, came on gradually several days or even weeks after the cessation of treatment and in most cases after the return of the child to its home. All the cases eventually recovered after a very protracted convalescence. On account of the slow elimination of arsenic from the system, he concludes from a wide experience, that an aggregate of 6.3 grains of arsenious acid, even when distributed over a period of three weeks, is sufficient to produce peripheral neuritis in a child.

Parasitic Skin Diseases.—When an antiparasitic drug is applied to the skin in strengths sufficient to be efficacious there is always danger of causing a most annoying dermatitis. G. J. Bucknall (*N. Y. Med. Jour.*, Feb. 24, 1900) points out that in the treatment of parasitic skin lesions, three principles must be observed; first, external irritation, or injurious agents must be avoided; second, substances which cause a roughening of the epidermis should not be used, but a softening agent employed; third, antiparasitic drugs able to destroy the organisms must be thoroughly applied. He believes that these cardinal principles are embodied in a drug—sapodermin—which he has used in a one-per-cent. ointment on many cases of scabies, furunculosis, pediculosis and idiopathic alopecia with most favorable results. This is an albuminate of mercury which has been considered theoretically to be inert, but is found to be highly antiseptic and leaves the skin in a soft, pliable condition.

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SATURDAY, MARCH 3, 1900.

PLANT OILS AS FOOD.

THE importance of fat as an ingredient in the human diet needs no restatement. Only too often, however, it is found that individuals who have most need for fats have not the slightest taste for them in the ordinary forms in which they are prepared for consumption, amounting in some instances to positive aversion. But in these cases fats and oils may be taken not only readily, but with positive pleasure. In the warm countries where the disinclination to animal fats is apt to be pronounced, the plant oils, such as olive oil and the various nut oils, are usually favorite articles of diet.

The possibilities latent in vegetable oils as an article of diet are not utilized, especially in this country, to an extent proportionate to their merits. Theoretically we may admit that plant oils are of the greatest nutritive value, but do not realize the practical importance of this fact.

Fat is a substance elaborated by cellular activity in living organisms. Whether the cell that accomplishes the production of the fatty material from indifferent elements, or collects it little by little from the nutritive material supplied to it, be plant or animal, the process and its result are biologically equivalent. The protoplasm of the plant cell is to all intents and purposes exactly the same as that of the animal cell. Analyzed, chemically, after the death of the cell, they are found to be made up of the same substances. It is no wonder, then, that the various products of their activity should resemble each other. Plant oils and animal fats have, it is true, certain characteristic qualities in which they differ from each other. Certain members of the plant series of fat compounds are, however, much more nearly related to certain animal fats than they are to other members of their own series; and, on the other hand, many animal fats resemble others of their own series much less than they do the plant oils. The more fluid fats contain a larger proportion of olein than do the harder fatty substances which are rich in palmitin and stearin. The yellow fats are richer in olein than are the white fats, which owe their color mainly to stearin. Human fat is much richer in olein than most other animal fats and for this reason approaches more nearly many of the vegetable oils.

Clinical experience has shown how beneficial for human consumption are the fish oils, which are also rich in olein. The product is, however, expensive and its preparation for table use requires most careful precautions, as it may have associated with it a number of undesirable substances that make it unpalatable and indigestible, especially for the delicate stomachs of the patients who most need it. The vegetable or plant oils are not open to these objections. Moreover, they can be obtained very cheaply. Modern manufacturing enterprise has made it possible to obtain certain of them in a perfectly neutral state, and much cheaper than even the ordinary animal fats. There seems every reason, then, that their use in the family should be encouraged as much as possible. They represent a most desirable addition to the domestic economy of the modern household, a cheap, clean, eminently nutritious and wholesome fat. This is especially fortunate at this time when fats are not being sufficiently used in the daily dietary.

THE ETIOLOGY OF CANCER.

WE published April 1, 1899, an article by Dr. Roswell Park on the increase of cancer. In this he showed from statistics that malignant disease is every year, throughout the civilized world, claiming more and more victims, and that it has become more of a scourge to humanity than prac-

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tically all of the infectious fevers taken together. The increase in the cancer mortality is more than balanced by the decrease in the death-rate from tuberculosis. These concrete statements of Dr. Park very naturally came to the medical world somewhat as a surprise. It had been the custom to think of cancer as an awful, but comparatively rare disease, irretrievably fastened upon mankind, but with no tendencies to vary in its virulence. The discussion that followed Dr. Park's paper, however, has been of great value in establishing more positively his statements. (See p. 324.) There seems to be no possible room for doubt that cancer is very seriously on the increase. If the statistics available on the subject mean anything, this is the undeniable lesson they teach. There are considerations, such as the use of better diagnostic methods and the more careful preparation of mortality reports, which lessen somewhat the force of the deduction from the appalling increase in the death-rate from cancer, but they do not explain it away. On the contrary, they serve to emphasize the fact that the increase of cancer is real, not apparent.

In addition to this increase in the number of cases, there are other striking facts with regard to the affection which have been brought out forcibly during recent years. One of these is that cancer is occurring at an earlier average age than was the case twenty years ago. A number of prominent European clinicians have called attention to this. It is a favorite teaching of Wölffler of Prague, who insists on the greater frequency of cancer, especially of the digestive tract, between the ages of twenty and thirty than was formerly the case. Nothnagel of Vienna is also very strongly of this opinion, and quotes the authority of Billroth, who, shortly before his death, expressed a similar conviction. French surgeons and internal pathologists have also insisted on this same observation.

Another characteristic of cancer that is being widely acknowledged is its tendency to occur by preference in certain localities. It has been pointed out that just as there are "consumption houses" so there are "cancer houses," dwellings in which deaths from this disease occur much more frequently than in neighboring houses. After a death from cancer in a particular house the family in which it has occurred may move out, and one of their successors in the house, in whose family no history of cancer exists, will suffer from the same affliction. When this idea was first advanced with regard to consumption it was scouted as utterly improbable. It is now generally accepted and the acceptance of a like conclusion for cancer houses seems to be one of the coming ideas in medicine. Not only are houses infested with cancer, but special localities somehow seem to favor its development. Certain villages show an undue proportion of cancer patients, and certain streets have become noted for the disproportionate occurrence of cancer along them. There are regions that undoubtedly have the unenviable distinction of being especially liable to the scourge. The work of what may deservedly be called the Buffalo school in the pathology of cancer has served to demonstrate that extreme western New York is one of these distictively unfavored regions.

It is very appropriate, then, that from this part of the country should come some of our most noteworthy advances in the knowledge of malignant disease. The recent report of the New York State Laboratory for the Investigation of Cancer, at Buffalo (see p. 358), shows that with the increased facilities afforded by State aid the good work of advancing our knowledge of cancer is to continue with even greater enthusiasm and the promise of still greater success. The details of the past year's work, as given before the New York Academy of Medicine, shows that the task of investigating the etiology of cancer has, for the first time in this country, been taken up in a thoroughly methodical way. The results so far have been most encouraging. The production by inoculation, with cancerous material from an internal cancer, of a true adenocarcinoma of the mamma in an animal marks an epoch of the American investigation of cancer. The observations and demonstrations of Italian and English experimenters have been successfully repeated at the Buffalo laboratory and everything is in readiness now to advance step by step to ultimate logical conclusions. The blastomycetes theory of the origin of cancer takes on a new lease of life in the light of these successful investigations. The recent observations of Sanfelice have identified the yeast-cells, which in his theory are supposed to be the cause of cancer, with the spherical bodies described by Russell and known as Russell's fuchsin bodies, and probably also with the appearances seen more recently in cancer specimens by Plimmer. This unexpected connection brings out these varied observations with striking force. It serves, too, to show that the investigation of a problem like this from different stand-

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points and in different countries may prove of the utmost importance for its ultimate solution. The recent American observations cannot but prove of the greatest service in further elucidating the obscurities that inevitably remain in so involved a question.

The subject is of transcendent importance. The knowledge that cancer is on the increase, that it is occurring in successively younger patients and that it is endemic as well as epidemic, emphasizes the supreme desirability of the most patient investigation of its effective and predisposing causes. There seems every reason to think that American enterprise and inventive ingenuity may prove successful in the solution of a problem that has so far puzzled the medical world.

ECHOES AND NEWS.

NEW YORK.

Yellow Fever at Quarantine.—The steamer "Homer," from Santos, January 31st, via Bahia and St. Lucia, laden with coffee, arrived at quarantine February 24th and reported yellow fever on board, two deaths having occurred on the voyage. One of the victims was a fireman, who died February 5th, and the other a mess-room steward, who died February 9th. Both victims were buried at sea.

Contagious Diseases.—The following cases were reported during the week ending Feb. 24, 1900: Measles, 896 cases and 60 deaths; diphtheria, 285 cases and 50 deaths; laryngeal diphtheria (croup), 17 cases and 14 deaths; scarlet fever, 195 cases and 17 deaths; smallpox, 2 cases; chicken-pox, 24 cases; tuberculosis, 207 cases and 176 deaths; typhoid fever, 25 cases and 10 deaths; cerebrospinal meningitis, 5 deaths. Totals, 1651 cases and 332 deaths.

Doctor and Driver Censured.—The driver of the New York Hospital ambulance which ran over a woman, as narrated in a recent issue, was censured by a coroner's jury on February 19th "for failing to bring his horse to a standstill in time to avoid such accident." And the examining physician at the hospital was censured "for failing to make a thorough examination of deceased before sending her to a ward." The woman sustained a fracture of the skull and other injuries, which resulted fatally.

Obituary.—Dr. James L. Watson died in the Homeopathic Hospital in Brooklyn on February 21st, aged seventy years. He was the last surviving member of the old City Guard of Brooklyn, which was merged into the Twenty-third Regiment. He was graduated from the Pennsylvania Medical College. He served as surgeon in the Civil War and was for some time surgeon-general of the Grand Army of the Republic.—Dr. Joseph M. Creamer died at his home in Brooklyn on February 23rd, in his sixty-fifth year. He was a coroner from 1893 to 1895.

The Congress of Tuberculosis.—The first Congress of Tuberculosis under the auspices of the Medico-Legal Society of this city was opened with a dinner at the Hotel St. Andrew on the evening of February 23rd. The organization of the Congress followed the dinner with Dr. Roberts Bartholow of Philadelphia as Honorary President, Dr. A. N. Bell of Brooklyn as President, and fourteen other physicians as Vice-Presidents. Dr. Charles Denison of Denver is Secretary and Treasurer. Clark Bell, President of the Medico-Legal Society, presided at the dinner.

The Veterinary College.—Recently the American Veterinary College became a department of the New York University and Bellevue Hospital Medical School. A bill has been introduced into the Legislature adopting this department as the State Veterinary College for the Eastern Division of the State. Provision is made for its support by an annual appropriation of $25,000. The State reserves the privilege of sending to the college for instruction, without tuition fee, any designated student who has lived for at least one year east of a line drawn from Port Jervis to Utica, and thence to Ogdensburg, this section of the State being thus designated as the Eastern Division.

Incineration of Garbage.—Dr. Alvah H. Doty has prepared a report in which he favors the passage of the Wagner-Doughty bill for the incineration of the city's garbage. This bill was set before the Senate Cities Committee, at Albany, on February 20th. Dr. Doty states that by the present method of incineration in use in San Francisco, Montreal, Hamburg, Berlin, Bradford, Leeds, Edinburgh and other cities, the garbage, mixed with ashes and other household refuse, can be incinerated for from twelve to sixteen cents a ton. The gases which are formed during the incineration are returned to the fire and destroyed before they can reach the outer air. The small amount of smoke emitted from the chimney is in no way regarded as a nuisance. The process may even be made a revenue-producer. Dr. Doty considers that a number of disposal stations should be situated in different portions of a large city. For this purpose the city should be divided into districts, each having its own disposal works.

Dr. Backus Sustained.—The Board of Managers of Long Island City Hospital have put on record, by a series of resolutions the keen dissatisfaction felt by the Board on account of the failure of Governor Roosevelt to reappoint Dr. Backus as superintendent of the hospital. The Board loyally endorses all of Dr. Backus' official acts, and declares that the method of procedure through which Dr. Backus was retired from the office as manager should be a disappointment and

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discouragement to all honorable and manly State officials who give their time and energies in furthering the philanthropic enterprises of the State without reward of any kind whatever, except that which comes through the pleasure of personal identification with good works and the promptings of a right conscience. Against the continuance of such methods the Board respectfully and earnestly protests.

Gov. Roosevelt has relented and appointed Dr. Backus to membership in the Board in place of a member who resigned.

Recovery from Broken Neck.—We recently reported the recovery of a hod-carrier from a broken neck at a hospital in Yonkers. We have now to report the promising convalescence of a gentleman who sustained a fracture of the fifth cervical vertebra in August last while diving off his yacht into shallow water. The X-ray disclosed the fact that the fractured vertebra was pressing heavily against the spinal cord. In September last an incision was made and the laminæ of the fifth and sixth cervical vertebræ were removed. The cord itself was not interfered with, but remained slightly dislocated. At the time of the operation the patient had neither motion nor sensation below the point of injury, indeed, the operation was done without an anesthetic and without any sensation on the part of the patient. There has been slow but gradual improvement in the patient's condition since the operation, and on February 25th he sat upright for the first time in an invalid chair and was able to propel himself about the room. Only certain movements of his fingers and entire mobility of his lower limbs are still uncontrolled by his will. The operation was done by Dr. Abbé at St. Luke's Hospital.

PHILADELPHIA.

Germantown Hospital.—An autograph book sale for the benefit of this hospital has been in progress for several days and a large fund is being raised. A biography of Admiral Dewey, which contained his autograph, was sold for $100, "Richard Carvel" brought $115, and Dr. S. Weir Mitchell's "Hugh Wynne" ran up to $25.

Health Report.—Deaths in the city for the week ending February 24th were 445, a decrease of 58 from the previous week and a decrease of 194 as compared with the corresponding week of last year. Contagious diseases: Diphtheria, 86 cases, 19 deaths; scarlet fever, 56 cases, no deaths; typhoid fever, 110 cases, 15 deaths. Typhoid fever is steadily increasing.

Death from Hiccoughs.—A well-known yet mysterious man in the person of H. H. Greyson died from the above cause, at the Pennsylvania Hospital, February 25th. Letters showed him to be the personal friend of Cecil Rhodes, Gen. Miles, and Gen. Wheeler. He had been postmaster at Manila and had been recommended for the Victoria Cross by Col. Baden-Powell. Nothing was left to tell of his birthplace or relatives.

Representation Asked by Women.—A committee of the students of the Women's Medical College has sent a petition to Mayor Ashbridge asking that that institution be represented on the examining board of the Philadelphia Hospital, saying: "Since our graduates are admitted to the examination for the position of resident physician in the Philadelphia Hospital, and since the other leading medical schools are represented on the Examining Board, we would respectfully urge a similar recognition for our College.

Rights of Christian Scientists.—The adherents of Christian Science in Lackawanna county are making a strong fight to extend their iniquitous practises. The little child of a business man in Scranton recently died from diphtheria after being treated by exponents of the faith cure. The parents then secured a regular practitioner to issue a death certificate and when the Coroner prepared to hold an inquest the Court was asked for an injunction to restrain him from so doing. The injunction was refused. A bill in equity has been filed, and the matter will be pushed to a decision.

Concession to Literary Colleges.—At a recent conference between the Medical Council of Pennsylvania and a committee representing the college presidents of the State the following action was taken by the Council:

"*Whereas,* the Act of Assembly requires that applicants must have pursued the study of medicine for at least four years, including three regular courses of lectures, in different years, in some legally incorporated medical college or colleges, prior to the granting of said diploma or foreign license; therefore, be it

"*Resolved,* that in the judgment of the Council, when the medical course of the literary college, as proven by the examination of the student by the medical college, covers the entire work of the first year of actual medical study, such course may be accredited by the medical college as the first year of medical study required by law."

Pennsylvania Hospital Clinic.—The patient suffering from post-typhoidal insanity, mentioned in our letter of last week, was shown by Dr. J. M. Da Costa February 24th, entirely recovered except for a slight degree of sleeplessness at night. The treatment consisted in forced feeding, stimulation by three ounces of whiskey daily, and the use of strychnine and syrup of hypophosphites. Statistics show that of 1288 cases admitted to the insane department of the Pennsylvania Hospital since 1883 there were only nine cases following typhoid fever. This includes only males. Of females the number was still less, the percentage being but one-tenth of one per cent.

Dr. Da Costa has collected more than a dozen cases of a not generally recognized type of simple continued fever. The average duration is from seven to ten days, the fever subsiding rapidly. A case or two has lasted as long as an attack of typhoid fever. The disease is believed to be fre-

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quently mistaken by practitioners for influenza or abortive typhoid fever, although it is neither. The cause is probably a special bacterium or ptomaine, although investigations being made along this line have as yet failed to detect such specific cause.

College of Physicians.—At a meeting of the Section on Ophthalmology, February 20th, Dr. G. E. De Schweinitz reported a case of foreign body imbedded in the choroid for 18 years. No trouble was caused until three months before the patient presented himself. Then iridocyclitis was set up, and sight was nearly lost when the man was seen. Enucleation was done. The vitreous was found to be thin as water. An interesting query is what started the iridocyclitis at that particular time.

Dr. W. C. Posey presented a paper upon "Mental Disturbances after Operations upon the Eye," with the report of some twenty cases. Delirium, with hallucinations and ideas of persecution, was met with. A careful study of the causes was made. In nine cases in which both eyes were bandaged the bandage was removed from one eye when the symptoms began, but this was followed by no improvement. A predisposition to mental unsoundness as a cause was found to have no foundation in these cases, nor did the use of atropine or cocaine. The withdrawal of food and autointoxication were also eliminated from the list of possible causes, as sufficient nourishment had been given and the bladder and bowels carefully watched. The conclusion reached was that the cause in such cases is largely psychical and is due to preoccupation of the patient prior to and after the operation. The hope of having sight restored, the intense desire to help the operator by doing as he wishes, the rest and quiet brought by bandaged eyes after the operation—all these are intense and cause the disturbed mental state. A discussion of the subject showed a strong tendency among the members of the Section to attribute much of the trouble to the bandaging of both eyes.

CHICAGO.

Will of Dr. Holmes.—According to the will of the late Dr. Edward L. Holmes, recently filed for probate, an estate valued at $75,000 is to be divided among the relatives of the deceased.

Advice for Physicians.—The Chicago Health Department has issued a pamphlet for distribution by physicians, which contains advice regarding the importance of absolute isolation of cases of infectious disease. It calls for perfect ventilation of sick-rooms; the closing of all entrances save one; and the hanging of sheets wet with disinfectants over them is urged.

Mortality Statistics.—There were 504 deaths recorded during the week ending February 17th, being 27 fewer than the preceding week and 100 fewer than the corresponding week of 1899. Pneumonia claimed 105. Mortality from typhoid fever remains remarkably low. There were 567 births recorded during the week, an excess of 63 over deaths. There were 8493 pupils examined in the public schools, and 371 were excluded for fear of conveying contagion to the other pupils. Two hundred and fifty-two cases of contagious diseases were reported and 18 funerals of persons dead of sontagious diseases were supervised.

Chicago Surgical Society.—At a meeting held Tuesday, February 20th, the following officers were elected: President, Dr. John E. Owens; vice-president, Dr. D. A. K. Steele; secretary, Dr. Daniel N. Eisendrath; treasurer, Dr. S. C. Plummer; council, Dr. John B. Murphy, Dr. E. Wyllys Andrews, and Dr. L. L. McArthur.

Dr. A. E. Halstead presented a case of popliteal aneurism treated by ligation of Hunter's canal with subsequent incision of the sac. On January 18, 1899, under ether, the femoral artery was exposed in Hunter's canal and ligated with a double catgut ligature. The wound was closed and sealed with a collodion dressing. After this operation the pulsation immediately ceased in the aneurism, the leg was elevated, and external heat applied. In the course of a few days the aneurism became very hard, but still the pain and edema of the leg continued. Three weeks after the ligation of the femoral, when the danger of necrosis was considered passed, the aneurismal sac was opened and the clots turned out. The cavity was lightly packed with gauze and the wound allowed to heal by granulation. No hemorrhage occurred. The patient left the hospital one month after the second operation. His leg is in a good condition, the only effect of the aneurism being a slight flexion at the knee-joint.

Chicago Medical Society.—At a meeting held February 21st Dr. E. R. Le Count exhibited specimens and lantern-lides illustrating the pathology of medical affections of the kidney.

Dr. N. S. Davis, Jr., read a paper on "Diet in Nephritis," in which he said that nephritis can be produced experimentally by swallowing, inhaling, or otherwise introducing into the blood certain chemicals which are renal irritants, and which must be eliminated by the kidneys. Cases of Bright's disease of this origin are rare. Physicians occasionally see such poisoning by turpentine, mercury and lead. As a rule, however, the cases are due chiefly to infection and the elimination of toxins by the kidneys. The influence of overeating and on injudicious eating in producing chronic nephritis is so generally appreciated that it scarcely needs discussion. Chronic diffuse nephritis, like acute nephritis, is most often due to infection.

When a case of acute nephritis first comes under treatment it is best to enjoin rest in bed, to withhold all food for twenty-four or thirty-six hours, to give water freely and to empty the alimentary canal by provoking purgation. Milk should then be given, at first in small quantities, at intervals of two hours. The quantity must be increased gradually until two quarts are taken

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daily. Milk is especially adapted as the sole diet of those who have acute nephritis because it more perfectly meets the demands of the system than any other single article of food. Intolerance of milk is often lessened or removed if, when a milk-diet is begun, it is administered in very small amounts, one or two ounces at a time, for example, and the amount is slowly increased. Milk, moreover, is less likely to produce gastric distress if it be sipped instead of being drunk rapidly. All things considered, it is the universal judgment of the profession that there is in this disease no substitute for a milk-diet. When the urine becomes copious and the amount of nitrogenous matter voided in twenty-four hours, all that can be expected, farinaceous foods may be prescribed in addition to milk. In a few days some of the sweet fruits and simpler vegetables can be given. When albumin disappears from the urine an egg can be tried. During the time that albuminous foods are being added to the patient's dietary, close watch much be kept upon the effect of it, the quantity of urine, the amount of daily nitrogenous excretion, the amount of albumin and number of tube casts, if any, found in the urine. When an egg can be taken without harm, white meats can be tried, such as the breast of squab and chicken, a small piece of boiled ham, or perfectly fresh fish. Red meats, rich in extractives, should not be eaten until recovery is established.

In chronic diffuse nephritis, there are the same indications for a milk-diet as in acute nephritis. It is, however, so prolonged a malady that an exclusive milk-diet cannot be maintained continuously. Interstitial nephritis is so chronic a malady that an exclusive milk-diet, even if it were necessary, could be maintained only for a small portion of its entire course. Zasiadko of St. Petersburg administered to ten patients, suffering from chronic nephritis, a vegetable diet for ten days, for a like period an animal diet (with a little bread added), and for another equal period of time a mixed diet. While upon a vegetable diet the amount of albumin in the urine lessened, arterial tension diminished, dropsy increased, the pulse became slower, weaker and softer, appetite failed, the patients became weaker and more apathetic. While upon animal food albumin increased in the urine, arterial tension rose, edema lessened, the pulse quickened and grew fuller, the patients became stronger and more cheerful. The effects of a mixed diet were midway between these. Alcoholic is looked upon as contraindicated in renal affections by the majority of clinicians. It is a renal irritant.

GENERAL.

Obituary.—Dr. H. R. Allen, a millionaire, widely known as a benefactor of crippled children, died while undergoing an operation at the Presbyterian Hospital, in Chicago, on February 13th. Several hundred crippled children, who had been treated by Dr. Allen, gathered in his offices in the Masonic Temple, in Chicago, to look upon his remains.

Conditions at Ladysmith.—A correspondent who escaped from Ladysmith February 10th reports that the continued diet of horse- and mule-flesh was getting somewhat monotonous although the health of the camp—taking everything into consideration—was better than could be expected; enteric fever and dysentery had abated, camp fever was slightly increased, but was not virulent. A local factory was turning out excellent horse sausages and another was making nourishing soup, which was much appreciated by the troops. The total number of men within the British lines was 17,000, all of them troops except 3000 civilians and 800 blacks. The live stock on hand included 4000 horses, 700 mules and 650 head of cattle. If there is sufficient forage for the live stock the danger of famine is certainly far off.

Denver's Consumption Victims.—The annual report of the Health Department of Denver, Col., shows that there were 536 deaths from tuberculosis during 1899, which were 31 more than during 1898 and 47 more than during 1897. Of 489 deaths from consumption in 1897, 88 were of patients who had contracted the disease in the State, and of this class there were 99 in 1898 and 58 last year. The increase in the number of deaths from consumption is attracting attention and a discussion of the situation occupies most of the space this year in the report of the State Board of Health. Already the danger from infection in the larger cities makes doubtful the wisdom of receiving patients in Denver, and the State Board calls for the immediate enactment and enforcement of drastic sanitary legislation.

Prenatal Injuries.—The Supreme Court of Illinois has handed down a decision in the case of an infant against St. Luke's Hospital, Chicago, in which it was sought to recover damages sustained by the plaintiff previous to his birth. Shortly before the birth of the child the mother was in St. Luke's Hospital, and while being transferred from one floor to another her left leg was caught in the elevator and crushed. When her child was born his left side and left leg were paralyzed and deformed. The mother settled with the hospital authorities on her own account and then brought suit for the child. The Court holds that at the time of the accident the child could not be credited as a separate being capable of sustaining an action independent of the mother. "If action can be maintained," it says, "it necessarily follows that an infant may maintain an action against its own mother for prenatal injuries."

The Sander Prize.—Rules for competition for the Gold Medal of the value of $100, dedicated by Mr. Enno Sander of St. Louis, for the best paper on "Military Surgery," presented at the Annual Meeting of the Association of Military Surgeons of the United States, are as follows: (1) Competition to be open to all members of the Association. (2) Each competitor shall send three copies of his essay, in a sealed envelope, to the Secretary, Lt.-Col. Chas. Adams, Central

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Music Hall, Chicago, Ill., on or before April 15, 1900. The usual arrangement for secrecy regarding authorship will prevail. (3) The committee will designate the essay worthy of the prize, and also in their order of merit those deserving of honorable mention. Should the Committee deem proper, it may recommend neither prize nor honorable mention. (4) The successful paper shall be published in the Transactions of the Association.

Dr. Keeley Dead.—Dr. Keeley, the inventor of the "Keeley Cure" died at Los Angeles February 21st. The career of Dr. Keeley and his remarkable propaganda is one of the peculiar medical anomalies of the closing years of the century. Dr. Keeley in treating the mania for alcohol as a disease introduced nothing novel to medicine. On the contrary, he applied to the treatment of these cases a well-recognized method. Unfortunately, he threw about it a cloak of secrecy and tainted it with humbug and quackery, and brought it into prominence as a great financial scheme. Although at first it was attended with remarkable success, the financial feature proved its undoing. It must be admitted, however, that the Keeley cure has probably served a valuable purpose in disseminating among victims of alcohol a wide recognition of the fact that they are the victims of a disease. It has also indirectly promoted temperance by warning people of the danger of contracting an uncontrollable mania. As the vogue of the cure has gradually passed away, it has been replaced by methods of treatment having a reputable medical standing and supplied by regular practitioners.

The Plague.—The reports of the suppression of the plague at Honolulu, as stated last week, have been confirmed by despatches dated February 22d. Unfortunately, however, the disease has been introduced in the island Maui. This is one of the Sandwich Islands on which the immense sugar plantations are situated. The seven cases of plague discovered here were in the town Kahului which is the port of entry of the island. They all proved fatal, the victims being Chinese or Japanese. The same radical measures were adopted that had formerly been employed at Honolulu. A detention-camp was established and a careful inspection of all persons who had been in that section of the port known as Chinatown was instituted. Chinatown was then destroyed by fire. Investigation by the Board of Health showed that the disease was introduced to Maui through New Year delicacies imported from the Orient. On the day that these goods were opened the disease appeared. An effort is now being made to trace the remainder of this consignment. Three of the crew who handled the goods on the steamer which brought them were among the victims. One case has appeared at Hilo, which is the only port at which our transports from the Philippines have called since the outbreak at Honolulu.

The plague in India continues virulent. There were 583 victims in Bombay during the week ended February 16. With over 61,000,000 people affected by the famine and only about 4,000,000 in receipt of relief, India seems in bad plight, though the death rates over the 550,000 square miles of the famine area are decreasing. The Indian Government has issued a proclamation approving Professor Haffkin's anti-plague inoculation, and the Viceroy, Lord Curzon, is advocating its use throughout India.

Medical War News.—The following extracts of the diary of a correspondent at Kimberley give a striking picture of the hardships endured:

January 11.—Scurvy attacks the natives alarmingly. They are dying fast. The antiscorbutics are exhausted. Vine-cuttings are being tried in lieu of green food.

January 12.—Typhoid is very prevalent. Neglect to boil the water is the probable cause.

January 13.—Fifty typhoids in the hospitals.

January 16.—The military authorities have commandeered all the foodstuffs and other stores. Leave has been granted to the inhabitants to shoot small birds for food.

January 17.—The mules slaughtered are pronounced superior to horseflesh.

January 24.—Five hundred shells poured into the town, at haphazard, the hospital, scurvy-compound and residences receiving the attention properly due the defenders of the earthworks.

January 25.—A small family shellproof shelter has been dug in nearly every garden.

February 11.—Twenty-five hundred women and children were lowered into the mines throughout the night. The men are also selecting places of safety.

February 15.—Relief column arrived.

A well-known surgeon, discussing the character of the wounds received on the battlefields has pointed out that experience of the present campaign seems to show that the only absolutely fatal region is the heart. Bullet wounds of the brain are now not necessarily fatal, judging from the records of the last few weeks, and this is presumably due to the small size of the projectile, the velocity with which it travels, and the modern practice of scientific surgery, by which dangerous symptoms likely to arise from injuries may be warded off. It has, therefore, been suggested that, the heart being the only really vital part in the body, a steel covering should be provided, to be worn so as to protect that part from bullets. A steel plate might be attached to the soldier's tunics, and doubtless the small shield could be so fixed as neither to impede movement nor cause inconvenience.

At a recent medical examination of some Irish volunteers, who offered themselves for service in South Africa, two were found to have very bad teeth. Upon being told that this would be against their acceptance the first one remarked that he did not see why this should be against him because he had terrible hard gums, while the second one

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remarked: "I thought we had to shoot Boers, I didn't know we were to ate 'em."

The British War Office for the first time has given out an official compilation of the British losses. The total is 11,208 to February 17th. This does not include, therefore, Lord Roberts' recent losses nor the Wiltshire prisoners. It is learned that the British losses at Koodoosrand were 700. Three thousand fresh troops embarked for South Africa February 20th.

CORRESPONDENCE

A CASE OF SALIVARY CALCULUS FROM THE SUBMAXILLARY GLAND.

To the Editor of the MEDICAL NEWS:

DEAR SIR:—There has recently occurred in my practice a case of unusual interest to me from the fact that it was the first one of the kind that has ever come under my observation.

A young woman, twenty years of age, had complained for three days of pain upon movement of the tongue and jaws, and of a swelling underneath the tongue on the left side. On examination I found a lymph node, enlarged, tender, and movable, in the left submaxillary region. A portion of the sublingual gland of the same side was also swollen, and there was a decayed molar tooth in the lower jaw on that side. No digital examination of the mouth was made. The patient had had a mild attack of influenza during the previous week and it was thought that some infective process had been lighted up in the root of the decayed tooth.

The following day the inflammatory process had progressed, causing increased enlargement of the sublingual gland, the surface of which was excoriated. There was also increased swelling with tenderness of the submaxillary lymph node and induration of the floor of the mouth. There was a free flow of saliva. The speech was thick, and there was inability to open the mouth to any extent. Temperature was 101° F. The condition suggested some slight suspicion of Ludwig's angina.

Suppuration, with spontaneous rupture of the ranula, occurred the same night and a calculus was passed from Wharton's duct. The calculus was $^{11}/_{16}$ of an inch long and $^{2}/_{16}$ of an inch thick at the central portion, tapering to a rounded point at either end. A fine probe passed five days later showed the duct free from further calculi. It is needless to say the patient promptly recovered from her unpleasant symptoms.

S. H. Dessau, M.D.

New York, November 20, 1899.

STATUS OF MEDICAL PRACTICE IN PUERTO RICO.

To the Editor of the MEDICAL NEWS:

DEAR SIR:—It gives me pleasure to give you some details of the practice of medicine as seen in this island.

The physicians in Puerto Rico have been, in the main, educated in Spain, the schools at Madrid, Barcelona, Cadiz, Sevilla, Valencia, Santiago, Valladolid, Granada and Saragoza, all being patronized. There are a few foreign diplomas on the island from the United States, France, Germany, Portugal, Switzerland, Belgium, Cuba, Scotland, Venezuela, Italy, Mexico, and Santo Domingo. From 1846 to the time of the American occupation, over 300 physicians had received licenses to practise in the island. Probably twenty physicians have come in since the occupation.

Those persons who studied in Spain do not commonly possess the title of "doctor," but are merely licensed "licensiado" to practise medicine and surgery. The explanation given for this is that the fees demanded for a diploma were so great poor students could not pay them. The persons who studied elsewhere than in Spain have, however, commonly the doctor's degree. For the registration of a foreign diploma the usual fee was 200 pesos ($150).

Besides the licensed physicians, there is a class of practitioners called "practicantes" or physicians' assistants, men who do the rough work in the mountains and among the poor. These persons are licensed to practise minor surgery, to pull teeth, and do whatever the physician under whom they practise may direct. From 1866 to date, 158 of these persons have been licensed. There are also midwives, called here "comadronas," who are licensed practitioners.

In the palace were registered, not only physicians and surgeons, but also surgeons major, surgeons second-class, surgeons third-class, surgeons, bloodletters, horseshoers, surgeon dentists, surgeon-practicos, surgeon-medico-practicos, medico-practicos, pedicuros.

Puerto Rico has a population of 975,000. There are now about 125 physicians on the island, or 1 to 8,000. The great portion of these are, however, crowded into the towns, leaving the country wholly without medical assistance, for the practicantes, like the physicians, are in the towns also. There are municipalities of from 10,000 to 20,000 population, which have to-day no physicians, because they are unable or refuse to pay for medical assistance for their poor.

The system has been as follows: Each municipality employs on a yearly salary one or more physicians to attend the poor. These physicians, if need be, give their whole time to the care of the indigent sick. Medicines are also provided by municipalities for the poor. Now it has come about, in time, that *all the people feel that they should have free medical treatment and free medicines.* The poor, because the law provides these things for them, and the well-to-do citizens, because they pay the bills. Hence, it follows that the doctor and the pharmacist have little private practise. The salaries paid medical men are miserably small, from 600 to 1000 pesos per year, or from $400 to 500, gold. Things have gone on along these lines, from bad to worse, until at the present time the practise of medicine is completely demoralized.

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This is seen in the frequent removals of physicians, often three or four times in a single year. Since the great storm of August probably a score of physicians have abandoned their posts because their salaries have been temporarily stopped, leaving the distressed people wholly without medical assistance.

To look after the interests of physicians there existed under the Spanish Government a board called the Royal Subdelegation of Medicine and Surgery. To this body all diplomas were submitted for examination before a license could be issued for a person to practise medicine on the island. When written, the statement just made was thought to be correct, but it has since been discovered that persons received licenses from the Governor-General. How many of this class were granted is unknown. The considerations on which they were granted are also unknown. The subdelegation of medicine also examined and licensed dentists and practicantes. It settled disputes between physicians and advised the Government in all civil and criminal law-suits where expert testimony was desired. It was not, however, able to place the practise of medicine on a sound foundation in the island.

The subdelegation of medicine and surgery was abolished by General Henry, Military Governor. Its functions are now performed by a Superior (State) Board of Health. This Board is directed to issue a license to each qualified practitioner, respecting all existing rights of those established on the island. The following are the essential points in the order regulating the practise of medicine, pharmacy and dentistry now in force in Puerto Rico.

An examining committee of three physicians, two pharmacists and one dentist, is appointed to conduct examinations under rules formulated by the Superior Board of Health. The members of this committee must all be of ten years' standing and recognized ability in their professions, and all must speak English. The Superior Board of Health appoints the president and secretary of the examining committee. The examinations are all to be in writing. The results are to be submitted to the Superior Board of Health.

Licenses will be issued to the successful applicants by the Superior Board of Health. The fees for examinations are: For physicians and surgeons, $25; pharmacists, $25; dentists, $25; practicantes, $15; professional nurses, $10; midwives, $5.

Persons who violate the order may be punished by both fine and imprisonment.

There are no poorhouses in Puerto Rico, but most municipalities have one or more "hospitals" to which the bedridden poor are taken. They receive little medical attention, almost all hospitals having as attendants practicantes, who often leave their charges nearly uncared for. When a patient dies, the vacant bed is quickly occupied by another waiting unfortunate. These people live carelessly and die easily. Alive and well one day and dead the next is no uncommon occurrence. Of hospitals, as these institutions are known in the States, there are very few in Puerto Rico, except those belonging to the army.

The mountains of Puerto Rico are extremely inaccessible, roads being almost unknown, but they have a rich soil and are densely populated. For physicians to visit the sick in their inaccessible mountain homes is almost a physical impossibility. Hence, they often die unattended by even a practicante.

In practise the native physicians temporize and use expectant remedies only. This is true of all, no matter where educated. In surgery it is the same way. They do only what is absolutely necessary. Heroic measures are wholly unknown in their practise. With many physicians the treatment is rest in bed with milk or other light diet. With their people, it must be said, they meet with fair success in many diseases. The drugs-stores throughout the island are clean and well-stocked, very creditable institutions indeed.

Christian Science practise has not yet invaded the island, but spiritualist practitioners are numerous. Of these there are two classes. The first receive revelations which aid in diagnosis and treatment from the world of spirits indiscriminately. The second class practise in the names of dead physicians of local repute, receiving from the spirits of the dead doctors very excellent prescriptions, so the people say. To the credit of the established church, these people are outside its membership.

Just now the island suffers from tropical dysentery and anemia, hundreds of persons dying each week of both of these diseases, which, however, confine their ravages to the poor who have but little food, clothing or shelter. The sanitarian meets with the greatest difficulty in his work. After a death it is a custom to hold religious services, for a period of eight days, in the room where the death occurred. No other room will answer the purpose, even in cases of contagious diseases. Many of the poor bathe very seldom and treat open sores with a decoction of urine and tobacco. There are probably 100 lepers on the island, but the disease does not tend to spread. Efforts are being made to collect all these unfortunates into an isolated locality where they can be well cared for.

Ending June 30th, 800,000 vaccinations were performed, and for several weeks past not a single case of smallpox has been known to either the civil or military authorities, showing clearly the possibility of controlling this disease in a Spanish-American country. Not a case of yellow fever appeared in the island all summer, indicating that that disease is not endemic here.

George G. Groff, M.D.
Secretary and Treasurer, Superior Board of Health.
San Juan, P.R., December 25, 1899.

Degenerates Exterminated.—Dr. McKim of New York in a recent book, recommends that the State should consign the hopelessly insane, the degenerate, etc., to a lethal chamber.

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TRANSACTIONS OF FOREIGN SOCIETIES.

German.

AORTIC ANEURISM WITH FEW SYMPTOMS—CONGENITAL HERNIA OF THE DIAPHRAGM—NATURE OF RELAPSE—SURGICAL TREATMENT OF RENAL TUBERCULOSIS—FINAL RESULTS OF GASTRO-ENTEROSTOMY—SUBPHRENIC ABSCESS — CARDIAC DYSPNEA AND PULMONARY EDEMA—OPERATIVE PERFORATIONS OF THE UTERUS.

AT the Union for Internal Medicine, January 15th, VON LEYDEN showed the specimen from a patient who had died from aneurism of the arch of the aorta. Curiously, no tumors, pulsation, murmur nor cardiac hypertrophy could be made out during life. There was observed only a paresis of the left vocal cord, followed by attacks of dyspnea and a marked respiratory stridor, due to compression of the trachea. The suspicion of aneurism was confirmed by a radiograph. The normal respiratory murmer was lessened not only on the left side where the pressure was on the bronchus, but also on the right side on account of insufficient inspiration. Seven injections of a solution of gelatin were made, but they had no apparent good effect. Death resulted from suffocation.

BRUSA spoke of a boy aged eight years, who had a congenital hernia of the diaphragm. The left lung was crowded almost out of its cavity by the protrusion into it of many of the intestinal loops, etc.

LIPPMANN discussed the question of relapse. In a five-year-old boy the decrease in size of a cervical lymph gland was followed by a relapse of scarlet fever. There is probably no such thing as a reinfection in scarlet fever, but only relapse starting from some remaining focus. Similarly in erysipelas there often remains a nest of cocci in the lymph channels which may lead to a further outbreak of the trouble. Follicular tonsillitis does not develop after the removal of the tonsils that harbored the germs. In furunculosis the cause of relapse is to be found in the remaining infiltration of the skin. Apparently new infections are often shown to be relapses by the fact that (1) the exanthem appears in the neighborhood of swollen lymph glands; (2) the course of the disease is mild; and (3) it is not the disease itself, but an etiologically allied trouble which develops. The germs of infection may remain encapsulated in parenchymatous tissues for years. Osteomyelitis, for example, may produce new foci after a lapse of decades. Usually the germs are freed from their capsule by a traumatism or an operation, on exposure to cold, or a psychic irritation with increase of blood pressure may suffice for their liberation. Puerperal fever is not always due to germs introduced from without. It may develop from old uterine or periuterine gonorrheal inflammation.

KONIG spoke of the surgical treatment of renal tuberculosis. This disease appears in two forms, *viz.*, either in small solitary nodules of the cortex which are recognized with difficulty, or as an affection of the pelvis of the kidney, which may be recognized without the demonstration of the tubercle bacillus in the urine by a train of symptoms—cloudy urine, unilateral renal pain, flocculi in the urine which are composed of epithelium of the pelvis and pus-cells. Later a tumor is palpable and the patient becomes emaciated and anemic. Resection and drainage are useless procedures. Removal of the whole kidney is the only chance of recovery for a patient having this form of renal tuberculosis. The existence of an opposite kidney must first be determined. Congenital absence of a kidney is associated with absence of the corresponding testicle. Catheterization of both ureters and analysis of the urine are absolutely necessary and entail no risk if properly performed. König has performed nephrectomy 20 times for renal tuberculosis. Twice the diagnosis was erroneous, the smegma bacillus having been mistaken for the tubercle bacillus. Of the remaining 18 patients, 3 died of anuria, and at autopsy the epithelium of the remaining kidney was found to be extensively necrotic. Consequently König no longer uses chloroform upon such patients, and keeps all antiseptics out of the wound. A moderate affection of the opposite kidney, nodules in the prostate or testicles, and disease of the bladder are not contraindications to operation. They tend to disappear when the chief source of infection and irritation has been removed. Six of the 18 patients (12 women, 6 men) operated upon died soon after operation. Eleven were living after periods of two, nine, six, and a less number of years.

LITTEN called attention to a third form of renal tuberculosis, characterized by a general caseation, with obliteration of the ureters. He showed two specimens.

At the Free Union of Surgeons of Berlin, January 8th, MERKENS spoke of the final results of gastro-enterostomy, mentioning 23 cases in which Murphy's button had been used. Six of the 7 patients who suffered from benign stenosis recovered. Sixteen patients were carcinomatous; 5 of them died within a month of the operation; 7 within two months; 8 within three months; 9 within five months; 11 within seven months; 12 within a year. The remaining four patients were alive at the time of report, one having survived the operation two and a half years. Posterior gastro-enterostomy had been performed, without entero-anastomosis and symtoms of a vicious circle had not appeared.

REICHERT showed a patient aged sixty-eight years who had washed his stomach two or three times daily for twelve years on account of dilatation and fermentation. Gastro-enterostomy was performed upon him and in six months he gained twenty pounds.

WEBER examined the records of 600 cases of appendicitis, and found that subphrenic abscess had occurred only nine times (2.15 per cent.).

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Seven of these nine patients were operated upon. Three died and four recovered. Such an abscess may follow appendicitis in three ways, *viz.*, the infection may travel upward along the ascending colon, or retroperitoneally, or the appendix itself may lie extended upward.

KAREWSKI mentioned two instances in which subphrenic abscess was due to trauma. Once it followed osteomyelitis of the eleventh and twelfth ribs of traumatic origin, and once it developed in a little girl who had been run over by a wagon. The pus in the latter case was sterile, and in it was floating the necrotic spleen. The abscess cavity was opened through the pleura.

KORTE reported 35 cases of subphrenic abscess, 16 of them being of appendical origin. He prefers the perpleural operation. Twenty-three of the 35 patients were cured. In the pus micro-organisms were always found.

At the College of Doctors, Vienna, January 22nd, v. BASCH spoke of cardiac dyspnea and pulmonary edema. Physiology understands by "dyspnea" the accumulation of increased respiratory stimulus. Clinically in dyspnea there appears to be a disproportion between the respiratory effort and the result. The cause of dyspnea in cardiac complaints is said to be either the irritation caused by the carbonic dioxide or the lack of oxygen. Traube explains it on mechanical grounds by saying that in congested lungs the capillaries are distended and twisted and project into the alveoli and so cause a mechanical obstacle to respiration. As to the result of his experiments, Basch became convinced that the essential factor in cardiac dyspnea is obstruction of respiration. For instance, if a manometer is placed in the trachea and fluid is then injected into the trachea, it is at once evident that the lungs increase in size. If the alveoli of a lung are filled with blood, the lung does not follow the excursions of the thorax as readily as before, for it has become stiffer and larger. Swelling and stiffness of the lung are the real factors of cardiac dyspnea. If a person whose heart is not badly affected remains quiet he can breathe easily, but when he makes some effort the lungs become stiffer and so do not answer the demands made upon them. The feeling that one cannot get enough air is increased to the highest grade in asthmatic attacks. These usually come on spontaneously, but they may be brought on by muscular exercise or excitement. The practical treatment is to give no emetics nor expectorants, but such remedies as will strengthen the heart (digitalis, camphor). Morphine, too, may be of value to lessen the blood pressure and so lighten the work of the heart.

At the meeting held January 29th BRAUN FERNWALD spoke of perforation of the uterus in gynecological operations. Usually the accident occurs during excochleation and the removal instrumentality of placental remains. When one is operating aseptically perforation of the uterus by a sound is not dangerous, and has been doubtless overlooked many times, causing no symptoms. For curetting a large dull instrument is recommended. Placental remains should be removed by the fingers as far as it is possible to do so. The condition of the uterine wall has a great deal to do with the occurrence of perforation. The puerperal uterus, especially if septic, can easily be perforated. The treatment of perforation consists of rest in bed. If there are alarming symptoms in septic cases, it is desirable to extirpate the uterus through the vagina. If a perforation is suspected irrigation must not be used. Bleeding may be stopped by packing gauze into the uterus. If intestine appears through the perforation, laparotomy should be at once performed in order to make sure that the intestine is not injured. In one case there were no less than six perforations, but the patient recovered without any complication.

SOCIETY PROCEEDINGS.

NEW YORK ACADEMY OF MEDICINE.—SECTION ON PEDIATRICS.

Regular Monthly Meeting, Held February 8, 1900.

Thomas S. Southworth, M.D., Chairman.

Dysentery from Bits of Wool.—Dr. LaFetra presented a specimen from a child who had suffered from sudden high temperature with diarrhea. The specimen had been obtained from several successive irrigations of the colon. A number of particles of some material resembling absorbent cotton were found in the stool. The mother denied that the child had had the opportunity to swallow any absorbent cotton. She recalled, however, that the child had the habit of picking at the fluffy material of its cradle coverings. Material thus plucked off it would put into its mouth. It is evident that the child swallowed a considerable amount of this material, which collected in the large intestine. During its course through the intestines it set up irritation, interferred with digestion and led to the absorption of toxic substances from the intestinal canal, thus causing the symptoms. When first seen the child had a temperature of 104° F., and it had a convulsion that lasted about five minutes followed by a period of unconsciousness lasting about the same length of time, an hour or so before it was seen. Because of the convulsions the child was treated by a hot pack at first and because of the temperature by a cold pack at 72° F. Shortly after the cold pack was applied an evacuation took place which contained some portions of the cottony material. The rest of the material was then removed by irrigation. Since then the child has been improving. The child had been perfectly well previously and although four teeth were irrupting on one side of the mouth, two upper and two lower, there seems no good reason to

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think that this would be sufficient in a healthy child to cause the symptoms noticed.

Carbonic Acid Gas for Whooping-Cough.—Dr. N. R. Norton reported two series of cases of whooping-cough occurring in two different years treated by rectal injections of carbonic acid gas. Out of 150 patients, 143 were benefited to a very noticeable extent. After the injections vomiting ceased and the paroxysms of coughing were less frequent and less severe. The seven cases that were not benefited were of weakling children in advanced stages of the disease. The carbonic acid was obtained from a mixture of bicarbonate of soda and crystals of tartaric acid. By this method the gas is given off sufficiently slowly, so that its administration may be kept up continuously for the necessary length of time. In infants the injections were given for five minutes at a time; in older children for ten minutes. The administration of the carbonic acid gas is followed by flushing of the skin, especially of the face. In a few of the patients mild diarrhea developed. This seemed to be produced by the irritation of the rectal tube. It ceased after a day or two, when the injections were discontinued, and they could usually be resumed a day or two later without necessarily causing the diarrhea. As children suffering from whooping-cough frequently have diarrhea it is doubtful whether the carbonic acid or the method of administering it was the cause of the frequency of stools.

The success of the injections of carbonic acid gas was marked only when the nascent gas was employed, that is to say, when the gas was obtained fresh from the chemical reaction of the bicarbonate of soda and the tartaric acid. In a series of twenty cases, in which commercial carbonic acid gas was used, it seemed to have absolutely no effect on the whooping-cough. By commercial gas is meant that which is obtained in tanks from the manufacturers of soda-water supplies. This does not seem to have the same chemical activity as the freshly prepared gas which acts as if in the so-called nascent state.

Intubation for Whooping-Cough.—Dr. O'Dwyer at the time of his death had been working for some time on the question of relieving severe cases of whooping-cough by means of the laryngeal tube. In some notes that he left on the subject he says that the torture which causes the child to drop its toys and fly to its mother or the nurse when a paroxysm of whooping-cough is about to come on must be felt personally to really be appreciated. He had whooping-cough himself when over forty and said that the spasm of the glottis which accompanies it gives one a sense of intending death which no amount of reasoning can remove. To relieve this torture it seemed to him for a long time that intubation would be effective. For this purpose he suggested, not the metal tube which is liable to calcareous incrustation with the production of sharp, roughened points which irritate the laryngeal tissues, but the hard rubber tube which remains clean and absolutely smooth for long periods. Intubation undoubtedly relieves the spasm. Some time ago at the Foundling Hospital three cases of whooping-cough developed laryngeal diphtheria, and intubation became necessary. It was interesting to watch the result of the intubation on the whooping-cough. There were all the usual symptoms of the expiratory spasm, but no inspiratory difficulties and no vomiting although the children had frequently vomited. It would seem, then, that in severe cases, at least, in which the child's nutrition suffers because of the vomiting, intubation is indicated.

Whooping-Cough in Dispensaries.—Dr. Walter A. Dunckel read a paper in which were discussed all the cases of whooping-cough that have been treated at the New York Dispensary during the past five years. About sixty per cent. of the cases were in females. Fifty-eight per cent. of the cases occurred between six months and four years. Only two of them occurred at three months, and none of the cases were over twenty years of age. The complications usually occurred in children under three years of age. Between the ages of three and four complications were notably less and after five they became comparatively rare. The great majority of the complications occurred from the eighth to the tenth week of the disease. Four of the cases lasted three months, one case lasted four and one-half months, while one case lasted but two weeks. In one case empyema developed and was operated on during the course of the whooping-cough. The paroxysms of the disease seemed to help in the expansion of the lungs. Although the child was so weak that it was feared it would not outlive the operation, it recovered completely. It might be thought that emphysema would develop because of the intense respiratory effort required during the spasm of the glottis. Although it was carefully looked for in all the cases that could be followed for any length of time it developed only in two patients, one boy and one girl. Pulmonary tuberculosis is not frequent after whooping-cough. It seems that the intense expiratory effort after the paroxysm throws the bacilli out of the air passages. The bronchopneumonia seems in many cases to be really tuberculous in character. Notwithstanding this consolidation of part of one of the lungs does not absolutely mean a bad prognosis. A certain number of cases clear up and the children recover. A certain number of cases of cardiac disease develop after whooping-cough, in which the latter disease would seem to be the etiological factor. No endocarditis and no murmurs, however, can be found.

Treatment.—Belladonna given to its full physiological effect seems at times to give good results. Cod-liver oil is of decided benefit. This is especially manifest from the fact that mothers come back regularly to demand the "thick medicine." Antipyrine cannot be used to advantage in dispensary practice. It seems risky to push the drug to the extent to which it must be used to secure good results, except where patients are constantly under the care of a physician. Bromo-

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form was not used because of the uncertainty of its mixture and because there was very little confidence in the remedy. Dr. Huddleston while in charge of the dispensary had used bromoform in a number of cases and had never seen any but doubtful good effects from it. As a matter of fact the prognosis in cases of whooping-cough depends largely on the hygiene of the patient's surroundings. Where an abundance of good food, good air, and careful nursing is provided fatal terminations are rare and complications of any serious character occur but seldom.

Comparative Drug Values.—Dr. Chas. G. Kerley read a paper descriptive of a series of efforts to determine by actual observation what drugs were most efficient in the treatment of whooping-cough. The cases were taken in groups of twenty and were allowed to run their course untreated to the acme of the disease. Charts were made of the number of paroxysms that occurred and of their severity. When there was no increase in either the number or severity of the paroxysm for three days the disease was then considered to be at its height and the drugs chosen were administered. The age of the patients varied from three months to twenty-six years. There were only three adults and five-sixths of the cases were under four years. Many cases of whooping-cough in private practice are mild and do not exceed five to six weeks in length. Recently Dr. Kerley has had a boy who had altogether only three paroxysms during the course of the disease, but these were typical enough to make the diagnosis sure. His sister had all the catarrhal symptoms of whooping-cough but did not whoop once. In hospital practice, however, it is no unusual thing to have cases to go on for ten weeks, for three months, or even longer. The observation of the effect of the remedies on these cases seems best calculated to bring out the true therapeutic effects of the drugs if there are any. Vapo-cresolin was tried in ten cases, but did not seem to produce any effect. This drug seems best for mild cases in private practice because of its suggestive effect on nervous parents. Inhalations of turpentine and steam were tried. They seemed to have but very little effect. Alum seemed to be of some service, but had such a bad effect on the stomach that after five days it was discontinued. Fluid extract of chestnut leaves and dilute nitric acid seemed to produce no effect on the disease at all. Bromoform was tried in sixteen cases, but seemed to be of no service. Only three of the cases were relieved and the remaining ones seemed to be absolutely unaffected by the drug. Spraying with cocaine, three per cent. solution, was tried in twenty-six cases. It seemed to be of some value. Quinine when pushed was found to be of great service. Twelve to twenty grains must be used in the twenty-four hours to produce the desired effect. It was very faithfully tried in sixty cases, so that the result seems to be very trustworthy. The drug is not palatable, however, and it is difficult to make it so. When given in this quantity neither chocolate, yerba santa, nor thick syrup succeed in disguising the taste. Their use as vehicles serve but to disturb the stomach. In older children it may be given in capsules. One difficulty of its use in private practice is that parents are apt to object to it if given in the doses it should be to have any effect. Belladonna is recommended by practically all the text-books as a specific for whooping-cough. It was tried in sixty cases to its full physiological extent without the slightest effect. It is a striking lesson in the trustworthiness of text-books, to see a child with typical dilated pupils and the belladonna blush having characteristic paroxysms of whooping-cough. The bromides, given in doses of twelve to sixteen grains daily in raspberry syrup, were found to lessen the severity of the paroxysms, although they did not decrease their number. Antipyrin was used in sixty cases. It controlled the paroxysms both as regards severity and number better than any other drug. In all cases where it was given it caused improvement. Antipyrin is a drug easy to administer. The best effect is obtained by combinations of the bromides and antipyrin. To a child of eight months one-half grain of antipyrin and two grains of bromide may be given every two hours until six doses have been taken. To a child of twelve months, one grain of antipyrin and two grains of bromide may be given every two hours for six doses. To a child of two years, two grains of antipyrin and three grains of bromide may be given in the same way. After the sixth dose an intermission of twelve hours should be allowed in all cases.

Steam in the room, keeping the air moist, is very effective in reducing the severity of the paroxysms. An Arnold steam atomizer is very efficient for this purpose. Steam medicated with creosote and turpentine was used, but it is doubtful whether it is any more effective. It is often said that children do not cough so much while they are out in the air. Mothers of the poorer class are apt to tell the doctor that the children do not cough on their way to and from the gas-tank, the gases from which are supposed to be good for the disease, the children being brought there every day. Because of the fact that it takes the children out into the air the gas-tank treatment should be encouraged. The paroxysms are usually worse at night. The cause of this is often the want of fresh air. The remedies that surely do good in whooping-cough are the sedatives and fresh air. It must be remembered that patients become accustomed to any drug and a change may be required.

Antiseptics in Whooping-Cough.—In the discussion Dr. S. H. Dessau insisted on the value of antiseptics in the treatment of whooping-cough. The disease is due to a specific germ and it is to be expected that an antiseptic is indicated. The paroxysms partake besides of a nervous explosion so that a sedative would seem to be indicated. Chloral besides being a sedative is a good internal antiseptic. For a number of years Dr. Dessau employed the drug rather freely, but stopped using it because it is a most nauseous prepara-

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tion. Undoubtedly antipyrin owes some of its value as a remedy for whooping-cough to the fact that it is an antiseptic as well as a sedative. Recently in Germany a new remedy has been employed which is also an antiseptic, *viz.*, difluordiphenyl. It is used by inunction, a five per cent. ointment of lanoline and vasoline being rubbed into the chest and back after a free cleansing by sapo viridis. Benefit is claimed from this treatment after two days and cure in two weeks. Some time ago Cadet Gassicourt suggested that the whoop of pertussis might be due to enlarged mediastinal glands pressing upon the recurrent laryngeal nerve. He attributed the enlargement of the glands to the presence of tubercle bacilli. There seems no doubt that there are cases in which the whooping-cough is really due to such a condition as Gassicourt describes. In these cases belladonna and potassium iodide are valuable.

Dr. G. M. Swift said that the value of antiseptics in the treatment of whooping-cough has been impressed upon him of late. The air of the room in which the little patients are confined can be rendered medicinal in its effect by keeping a 25 per cent. solution of formalin constantly exposed in an open vessel. This is quite sufficient to make the odor of the drug noticeable in the room. This same expedient is useful in influenza. For the treatment of whooping-cough fresh air is of the greatest importance. There are undoubtedly some cases in which the mediastinal glands are demonstrably enlarged and in which this enlargement has something to do with the paroxysmal cough. In these cases an abundance of fresh air is a most useful remedy. Dr. Swift has a prejudice against the coal-tar products, although at times he has seen some good come from phenacetine. He has seen good effects from heroin in a certain number of cases and has been pleased with its action. It seems to replace codeine very advantageously although, of course, its real value is not yet decided.

Dr. J. J. Walsh said that it is a tradition in the mining districts of Pennsylvania that the air of the mines is good for whooping-cough. In order that children may have the opportunity to breathe it they are taken down in the mines for some hours several times a week. The custom has practically been discontinued of late years, because medical men scoffed at the idea. As a matter of fact it is very probable that the fresh air that the children enjoyed during their excursion to and from the mines, together with the hour in the mild, equable temperature of the mines, which is never above 70° F. and never below 60° F., was not without its effect. Dr. Walsh mentioned that a series of cases had been treated recently by serum taken from individuals who had had whooping-cough. It is well known that whooping-cough protects very well against second attacks for years after a first attack of the disease. It is to be presumed, then, that according to modern ideas of immunity the serum of a person who has recovered from an attack of the disease contains for life certain properties which make it efficient against the germ of the disease, for whooping-cough is undoubtedly a germ disease. This fact of immunity was taken advantage of in some recent experiments for the treatment of the disease. When injected into children suffering from whooping-cough this had the effect in two cases of aborting the disease and in others of lessening the number and severity of the paroxysms. The subject is as yet under investigation and the experiments have not been definitely published.

Dr. Hermann said that for the past two years Dr. Koplik has found the sedative coal-tar products, especially antipyrin, of the most use in the treatment of whooping-cough. It is given to a child of two years in two-grain doses guarded by a drop dose of digitalis.

Dr. Walter Lester Carr said that the most satisfactory remedy for whooping-cough seemed to be antipyrin with codeine. Codeine has not been replaced in his experience by heroin. Quinine is good mainly because it acts as a tonic. Fresh air is extremely important and the children's playroom should be freely aired and its windows kept open practically all the time. It is not alone the paroxysms of whooping-cough that must be treated, but the while mucous membrane of the patient. If adenoids and hypertrophied tonsils exist they should be seen to early in the case. In a word, it is the patient and not the whooping-cough which must be treated.

Dr. Berg said that whooping-cough has two indications for treatment: First, the convulsion, and, secondly, the softening of the tough glairy mucus which makes the paroxysms persistent. For the convulsion, just as for epilepsy, the bromides are the best drugs. For the softening of the tough secretion bichloride of mercury is very effective. Years ago before the introduction of the antitoxin method of treating diphtheria most practitioners had favorable experience with the success of the soluble preparations of mercury in causing the disappearance of throat secretions and membranous deposits. It will do this in whooping-cough also. One-sixtieth of a grain may be given every three hours to a child until diarrhea occurs, then intermitted for several days and taken up once more when the child's stools have become normal in number and amount. Under this treatment complications by severe bronchitis or pneumonia are very rare.

THE NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, Held Thursday, February 15, 1900.

The President, Wm. H. Thomson, M.D., in the Chair.

THE business of the evening consisted of a discussion on the etiology of cancer as far as light had been thrown upon that important subject by the work of the past year in the New York State

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Laboratory for the Investigation of the Cause of Cancer at Buffalo.

Cancer Etiology.—Dr. Roswell Park said that his remarks on this subject at the present meeting were but a supplement to a paper that was read before the New York State Medical Society at its recent meeting in Albany. (See p. 324.)

Karyokinesis, he said, is not now looked upon as so important a feature of cancer as it formerly was. Arnold has called attention to the fact that fragmentation takes place in portions of a malignant tumor and that this seems to be characteristic of certain grades of malignancy. A Japanese pathologist, however, considers that this fragmentation is a post-mortem change; Klebs has recently called renewed attention to leucocytic inclusion in cancer. In this respect cancers are comparable to the infectious granulomata. It would seem that this inclusion was due to phagocytosis and supposes the presence of parasites.

The question of metastasis continues to be a most interesting one. Each metastasis is really to be considered as an autoinfection. Under varying circumstances metastases are very specific in character. From certain organs they almost invariably take place in certain definite tissues and not in others. Von Rechlinghausen pointed out a good while ago that metastasis from cancer of the prostate is practically always to be found in bone. While metastasis from cancer very seldom takes place in the lungs that from sarcoma is quite frequent. It occurs by means of retrograde venous embolism or by direct infection from particles in the venous blood stream.

Conveyance of Cancer.—Certain forms of communication of cancer are very familiar. That it may pass from one lip to another has long been well known. In recent years we have learned that one vocal chord may infect the other. Cases of communication of cancer from the eyelid to the globe of the eye have been reported. In a number of cases we know that a carcinoma of one wall of the bladder has led to infection of the opposite wall from the two surfaces lying in contact. The same thing happens with regard to the stomach. A still more notable example of cancer infection is when cancer develops in the stomach from the swallowing of portions of cancer tissue from a cancer focus higher up in the esophagus. A striking case has been reported recently in which a patient who had cancer of the ear scratched it and thus infected his lip. Cancer of the lung from cancer of the larynx has been reported and is evidently due to the same process as leads to the infection of the stomach from the esophagus.

Vitality of Epithelial Cells.—The epithelial cells in cancer not only retain their vitality to be carried from one part of the body to another, but seem to retain it for some time after removal from the body under favorable conditions, as in serous fluids and the like. The failure even by the most distinguished experimenters to inoculate cancer only shows that the methods thus far employed have been wrong. It does not inevitably lead to the conclusion that we will never be able to solve the mystery of cancer infection. There are certainly some cases on record in which cancer has been conveyed to animals. A number of cases in human beings show that the persistent irritation of epithelial cells with opportunities for infection may lead to the development of cancer. Cases are frequent in medical literature in which cancer has developed in the scar of lupus vulgaris. It does not develop after lupus erythematosus. It frequently develops in fistulous tracts, especially fistulous tracts leading inward, as down to a necrotic focus in bone disease. It develops not infrequently in urethral fistulæ. The scars of burns are in the same way frequently the site of cancer.

Irritation and Cancer Development.—Volkmann found that out of 126 cases of cancer of the limbs 99 were due to irritation. The well-known effect of irritation in producing cancers around the mouth needs scarcely be mentioned. Jagged teeth, the presence of tartar, the use of tobacco, all have been set down seemingly with good reason as predisposing causes of cancer. Debove reported cancer of the tongue in 24 cases out of 25 cases of psoriasis that he had had under observation. The process recalls vividly Paget's disease of the nipple and the liability to cancer that follows it. Cancer of the genital organs is also frequently due to chronic irritation. Psoriasis uterina has been reported as preceding cancer of the body of the uterus. Cervical cancer follows the use of a pessary or occurs in the scar of a laceration of the cervix or at the site of an old ulcer. Cancer of the bladder occurs after a vesical calculus and cancers of various parts of the urinary tract have been traced to the irritation of calculi at various points in the kidney and its pelvis. Biliary lithiasis is undoubtedly at least a predisposing cause of cancer of the gall-passages. Epithelioma has been reported as developing in the wall of a cavity in the lung and in the indurated tissue around a tracheotomy tube. Endotheliomata have occurred with great frequency among the workers at Schneeberg in the cobalt mines. It occurs in the lungs from inhalation of the irritating metal dust of the mines.

Cancer Dyscrasia and Cachexia.—Cancer dyscrasia often precedes the development of cancer. It has often erroneously been thought to be a consequence of its initial steps. It would seem, however, that the system gets into a condition in which the development of cancer is favored by the lowered nutrition of the patient. The condition cannot be described as accurately as can the tuberculous dyscrasia, but it undoubtedly exists. Cancer dyscrasia and cachexia must not be confounded. The cachexia develops as a consequence of the drain upon the system by the growth of the tumor and by the absorption from it of certain toxic substances that disturb systemic metabolism. The injection of cancer juice into animals always produces serious results; fever develops, salivation occurs, and collapse closes the scene. There is undoubtedly great toxicity

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in cancer serum. Coma has been known to develop in a number of cases in which there was rapid softening of the cancer with absorption from the tumor of a considerable amount of cancerous elements. This coma is not unlike the similar condition which develops as the result of diabetes mellitus. Klemperer has reported the discovery in the blood of cancer patients of oxybutyric acid which is thought also to be the important element in the production of diabetic coma.

Cause of Cancer.—Dr. Gaylord said that the most important work on the etiology of cancer in recent years has come from the Italian school. The daily press gave a good deal of space not long ago to the work of a Frenchman who reported that he had discovered the cause of cancer. He was undoubtedly only a charlatan, however, and his supposed specimen of the cause of cancer proved to be nothing more than a very ordinary form of rose yeast. His cancer serum was a fraud.

Blastomycetes in Cancer.—The most important studies in the etiology of cancer at present are those that concern themselves with the blastomycetes or yeasts. Their possible connection with cancer was first suggested by Roncali, who, while studying certain appearances that were supposed to be coccidia, recognized that they were yeasts. Before this Russell of Edinburgh had pointed out the almost invariable presence in cancer of certain "fuchsin bodies," so called because they stain deeply with fuchsin. Russell thought that they were the cause of cancer. Fuchsin, however, stains a good many other things besides these bodies, and so it was not long before Russell's work on the subject was discredited by the observations of others. Russell was not, however, altogether wrong. The problem is not one that can be decided by morphology alone. The microscope is not sufficient to decide and we shall not know definitely until we are able to tell something more of the internal structure and mode of development of these bodies. Later on Ruffer and Walker and then Ruffer and Plimmer made similar discoveries. Plimmer found in 1100 out of 1200 cases of cancer a typical body that he considers a parasite. He did not succeed in inoculating this into animals. The body seems to be a blastomyces.

English and Italian Observations.—San Felice, who accepted Roncali's suggestion as to the possibility of blastomyces being the cause of cancer, has done considerable work on the subject. He has lately succeeded in producing by the inoculation of saccharomyces local tumors followed by enlargement of the lymph nodes. These lymph nodes were allowed to dry and when pulverized and inoculated into successive animals they became more and more virulent until finally they produced death in two days. The inoculation of this virulent material produced in one animal true adenocarcinoma of the breast. From this, however, the organism could not be cultivated, but it could be found in the tissues although in slightly modified form. It had become changed into something that was very like the Russell fuchsin bodies. San Felice succeeded in producing one cancer besides a series of other tumors. The latter were not typical of any single class, although one of them looked very much like a sarcoma. The possibility of the cultivation of the blastomyces from these tumors was very variable and seemed to follow no definite rule.

Pathogenic Yeasts.—Very little is known of the pathogeniety of yeasts. Busse in 1893 first showed that yeasts could be pathogenic for man. They occur mostly in skin lesions. The place of yeasts in botany is rather indefinite. Brefield unsettled the botanical world some time ago by announcing that a plant which grew in one cycle of its existence as a fungus, he had observed to grow in another cycle as a yeast. We have no way of classifying yeasts morphologically and the whole subject is extremely obscure. It is clear then that their possible connection with cancer can not be definitely made out for some time to come. We have evidence now which seems to demonstrate that the appearances found in epithelial cells in many cases of cancer are not due to degeneration products within the cells, but are due to something living, and the theory of coccidia is giving way to that of blastomyces.

Results at Buffalo.—We have tried cultivations of every possible kind in the State Laboratory for the Investigation of Cancer. Altogether 1200 cultures have been made on 60 different culture media. The result has been most variable. Only once did we find a yeast in pure culture. Only once was inoculation performed successfully. Since a recent visit to Europe we have taken advantage of the technic employed by San Felice in his recent observations. We now use aseptic material from dried lymph nodes for our inoculations. The work has been done only within this last two months, yet three times death has occurred within three weeks after inoculation. In certain of the cases we have found Russell's bodies present in the nodules which occurred in consequence of the inoculation.

BOOKS RECEIVED.

The MEDICAL NEWS *acknowledges the receipt of the following new publications. Reviews of those possessing special interest for the readers of the* MEDICAL NEWS *will shortly appear.*

GENERAL AND LOCAL ANESTHESIA. By Dr. Aimè Paul Heineck. Demy. 8vo., 124 pages. G. P. Engelhard & Co., Chicago.

PROCEEDINGS OF THE AMERICAN MEDICO-PSYCHOLOGICAL ASSOCIATION, at the Fifty-fourth Annual Meeting, held in St. Louis, May 10-13, 1898.

A PRACTICAL TREATISE ON DISEASES OF THE SKIN. For the Use of Students and Practitioners. By Drs. James Nevins Hyde and Franklin Hugh Montgomery. 8vo., 864 pages. Illustrated. Lea Brothers & Co., Philadelphia and New York. $4.50.

HEALTHY EXERCISE. In three parts. By Dr. Robert H. Greene. 16mo., 167 pages. Illustrated. Harper & Brothers, New York and London.

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THE MEDICAL NEWS.

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ORIGINAL ARTICLES.

RECENT METHODS IN CARDIAC THERAPEUTICS BY BATHS AND EXERCISES.[1]

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THIS paper will be devoted to the methods employed for the past two years in this country. So far as I know there has been no material change in the methods used at Nauheim.

I will first speak of exercises and their adjuvants because I usually begin my treatment with them, and because they have a somewhat wider application in cardiac therapeutics than the carbonated baths. Sometimes, in fact, I have given no baths at all, yet have had good results; for it may be remembered that exercises alone will generally accomplish the same results although more slowly and less agreeably than when the two are used in conjunction.

I do not propose to give a recital of well-known details. On two occasions in this hall I have demonstrated my particular methods of giving resistant exercises; while the plan of the baths has been presented to the profession so many times that practitioners have been well-informed as to the way they are administered. However, it will serve the purpose of this paper at this point to make a brief statement about the exercises. They are chiefly voluntary, and consist in flexion, extension, adduction, abduction and rotation of the limbs, neck and trunk by the patient while the operator opposes graduated resistance. Between each single movement, more rarely between groups of movements, there is an intermission. This method, thus described, is known as the Schott System. It consists, therefore, of intermittent, voluntary movements on the part of the patient, resisted by the operator. The ordinary Swedish movements, as they are commonly understood here, are voluntary and unresisted and more or less continuous. They need no operator. But I use also a number of passive movements which I have found of such great value that I never omit them from any course. I have called them respiratory and have described them at length in a paper read before the County Medical Society, February 28, 1891[1]. The two most important are described as follows, the first one being adapted for bed-patients, the second for ambulants. In the first one the patient lies on the back on a couch, with the head and shoulders elevated slightly; the operator standing at the side or back passes his arms under the armpits, raising the trunk slowly as far as possible without actually lifting the patient from the couch. Then the trunk is allowed to return to its former position. It will be noted that this exercise is not to be resisted by the patient. I therefore call it a *passive* movement. It is specially adapted for obese patients, or cases of cardiac dropsy. Each respiratory movement is in the direction of artificial respiration, and should be repeated from one to five times a minute on an average. The other respiratory movement, which I have also described, is designed for patients with a fair degree of strength. The patient sits on a stool while the operator, standing on another stool behind him, passes his hands over the patient's shoulders, grasping him by the axillæ; the patient's body is then lifted upward as far as possible without the patient absolutely leaving the stool. The potency of this operation is now increased by the operator drawing the patient's shoulder over backward as he does it by pressing his knee slightly against the middle of the patient's back, while he draws him over backward. After an intermission the trunk is permitted to settle slowly down into the original sitting position. Of course, the operator needs physical strength for this movement; sometimes in heavy people two operators are required. There are several other respiratory exercises that I have elsewhere described.

Resistant exercises, and in fact all exercises, are less effective if used consecutively. They are best interspersed in a way to give some variety between passive movements, massage, percussion or perhaps vibration. A good scheme of a course is as follows: (1) A respiratory movement, such as has been described (Nos. 33 or 34 of my published series[1]). (2) Elbow flexion and extension (Nos. 3 and 4 of my series). (3) Foot flexion and extension (Nos. 21 and 22 of my series). (4) Abdominal massage. (5) Flexion of leg on thigh (Nos. 35 and 36). (6) Massage of arm and forearm. (7) Arm circumduction (Nos. 7 and 8 of my series). (8) Flexion of knee (Nos. 37 and 38 of my series). (9) Leg massage. (10) Percussion of back, manually or by vibrator (Nissen), with massage.

The séance should at first be short, not over fifteen minutes, especially with delicate people; and in any case it should not last more than an hour. As the course progresses, the number of exercises should gradually increase, more resistance be employed, but intermissions are always to be maintained. Sometimes, however, the patient can not bear any increase in the number of movements,

[1] Read before the New York Academy of Medicine, February 1, 1900. Prepared by request of the President.

[1] Post-Graduate, June, 1898.

[1] See Post-Graduate, June, 1898.

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and little force can be used. In cardiac cases of a neurotic type, brilliant results are often obtained by pushing the force of the movements to the limit of the patient's tolerance; but each case, of course, requires a somewhat different series of exercises, and herein lies an opportunity for skill and experience.

In addition to the active and passive movements I always insist that the patient walk more or less daily in the open air when it is practicable, or, if he cannot leave the house, in his apartments, which should be well ventilated while he takes his walk. Distances in any case should be gradually increased. Hurried movements, however, must never be permitted. Stairs should be ascended slowly; heavy weights should not be lifted and the patient must be warned that any physical strain may be followed by most dangerous results. But mental strain should also be avoided as far as possible. These two forms of strain, together with overeating, form the most frequent causes of death in chronic heart-disease. Let the patient avoid them, pursue the modern method of treating failing compensation, when it occurs, and he may live to a good old age.

It is a mistaken idea that a patient should always be kept in the dark about his heart trouble. In the vast majority of cases he should be told plainly what his condition is, particularly if the disease is organic, in order that he may take pains to guard against heart failure. I feel convinced that by pursuing this plan, many valuable lives may be indefinitely prolonged.

At this point I wish to say that a patient should be prepared for a course of treatment much as he would be prepared for a major physical operation. During the preliminary treatment many important data will be obtained and it may be possible to remove suspicious quantities of albumin, sugar or even granular casts, so that the baths can be undertaken in safety, which otherwise would be a source of constant danger. Slight albuminuria, a small amount of glycosuria, and moderate cardiac dropsy, do not absolutely contraindicate a course of baths.

If the patient can take a regular six weeks' course, which is advisable in all cases, I do not at first carbonate the bath, but during the second week I employ a quarter of one per cent. of the gas. From the beginning of the third week to the end of the sixth week, the strength of the baths in salines, carbonic acid, and finally chloride of calcium should be gradually increased. The immersion should not last less than four minutes, nor more than fifteen. In a delicate persons the duration should be short. As a rule, all patients are to begin with a bath at 98° F. But some effort should be made to reduce the temperature gradually, although never more than a degree a day. I am unable to use a bath at as low a temperature as 85° F., which is the point to which in Germany they attempt to reduce the temperature. Such a low degree of temperature would not be well borne in this country. If the patient can endure a bath at 89° F., it must be regarded as something unusual. Usually it does not fall below 92° F. Sometimes the temperature cannot be reduced at all, and a bath should never be given in which the patient on immersion has a sensation of chilliness.

Baths and exercises are omitted in cardiac cases at intervals of three, four and five days. So that in a course of forty-two days there should be nine intermissions. These intervals have various uses; they give a physician an opportunity to make a special examination of the patient and his environment; but more than this they seem to have a salutary effect for reasons that are not clear. Certainly these intermittent baths are more effective than consecutive baths. While a course ordinarily lasts six weeks, I sometimes give a modified course, lasting several months; in fact, more or less throughout the entire year. (By this method we have an advantage over the Nauheim system. We give ours continuously throughout the year; in Nauheim the baths can only be given in summer-time.) Modified courses are suited for locomotor ataxia, probably for various forms of myelitis, for neurotic forms of heart diseases, neurasthenia, melancholia, insomnia, the drug habits and chronic rheumatism.

I do not propose to discuss here the older methods of carbonated baths by the use of crude muriatic acid or liquid carbonic acid gas. I have used both, the latter extensively. The one is too dangerous, the other is unsatisfactory for reasons known to chemists or pharmacists. There is always a danger from the bursting of the drum or cylinder. There have been a number of accidents from this cause. More than this, it is practically impossible to accurately charge the bath with the desired amount of carbonic acid, for carbonic acid gas is absorbed by water in proportions varying with the temperature of the air and the water. Even if every precaution is used, a great deal of gas is lost. In fact, I do not believe that liquid carbonic acid in any form will ever be employed to any extent in making carbonated baths. Fortunately, we have no use for either of these methods. Mr. H. A. Cassebeer of this city adopted some time ago the plan of Sandow of Germany, and made solid discs of the bisulphate of soda as a substitute for the crude muriatic acid, so that now with the aid of the commercial bicarbonate of soda any one can carbonate a bath safely, quickly and inexpensively, obtaining the amount of carbonic acid gas that may be desirable, with a reasonable degree of accuracy. The Triton Company of this city, following Mr. Cassebeer, supplies similar discs and soda all put up in neat boxes. So that now all the materials for carbonating a bath can be obtained from any druggist in the country. In some respects this artificial bath is superior to the original. It is entirely free from iron, earthy and other extraneous matters found in the Nauheim waters, which have no curative value, but the amount of carbonic acid as artificially prepared in the bath, and the amount of salt and chloride of calcium

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can be made to correspond practically with the same ingredients as found in the natural Nauheim waters. As the course nears the end I use the imported Hauheim salts, known here as the concentrated Nauheim Brine Salts. They are a convenient vehicle for the chloride of calcium, of which they contain about 75 per cent. I feel confident that they add to the efficacy of the bath.

These salts are the uncrystalized residue of the salt works at Nauheim, and are produced by boiling down and evaporating the mother liquor after the commercial salts have been extracted. For the brine I use an American bathing salt as a rule, although in delicate cases I sometimes prefer sea salt in order to secure the bromine and iodine that they contain. For the past year I have been using the purified Genesee bathing salt obtained from the mines in this State. This bathing salt is of very superior quality. I doubt if it has any superior.

The method of preparing a bath is as follows: Fill the bath-tub, whether porcelain, enameled iron, wooden or painted, or merely metal lined, with fifty gallons of water, at 110° F.; then add the desired amount of ingredients as shown by the special directions which follow. First, place the tablets or discs of the acid sulphate, more or less broken or pulverized, at various points on the bottom of the tub. If the tub is of porcelain, enameled iron or wood, they may be placed immediately on the bottom. If the tub is of unpainted metal or painted, wrap each of the pulverized discs in a little bit of tin foil or rubber sheeting; then add the bicarbonate of soda. Evolution of gas takes place in three to ten minutes. The patient should enter the bath at 98° F. and remain in it during the prescribed period of time. The salt should be introduced either before or after the acid sulphate. When the gas is evolved it will be seen to attach itself to the trunk and limbs under the form of minute bubbles. My scheme for an ordinary six weeks' course is at the pres, ent time, as follows:

First week: Half a per cent. warm sea-bath (2 pounds bathing salt to 50 gallons of water), temperature 98° F., duration four minutes. Intermission on third day. Second week: Three-fourths per cent. warm bath (3 pounds salt to 50 gallons). Temperature 97° F., six minutes. Intermission on fourth day. One-fourth per cent. carbonic acid gas (2 discs to a package). Third week: One per cent. warm salt bath (4 pounds to 50 gallons). Temperature 96° F. Carbonic acid gas ½ per cent. (4 discs to two packages), four minutes. Intermission on fourth day. Fourth week: One one-fourth per cent. bath (5 pounds salt to 50 gallons). Temperature 95° F. Nauheim concentrated brine salts,[1] 8 ounces, ten minutes, carbonic acid gas three-fourths per cent. (3 packages to 6 discs). Intermission on fourth day. Fifth week: One-half per cent. bath salt (7 pounds to 50 gallons). Temperature 94° F. Concentrated brine salts, 10 ounces. Twelve minutes. Carbonic acid salts three-fourths per cent. Intermission on fifth day. Sixth week: Two per cent. salt bath (10 pounds to 50 gallons), temperature 93° F. Concentrated brine salts, 12 ounces. Carbonic acid gas one per cent. (4 packages in 8 discs). Fourteen minutes. Intermission every fifth day.

In sthenic cases I begin at once with the carbonated bath; with feeble persons I am apt to omit the last two baths of the series. (Nos. 5 and 6.) In neurotic cases it is not advisable to use the concentrated salts, and the patient may oscillate between the two weaker carbonated baths. By this method the baths can be kept up more or less continuously for several months. Baths given with too much carbonic acid gas, too often, or of too long duration, excite the nerves, diminish the appetite and reduce the strength. Accidents seldom happen when the patient adheres to the rules above laid down, but, I am sorry to say, these baths are now given by persons with limited experience, without the supervision of a physician. This matter cannot be too strongly discountenanced, and, yet, I will go further and say that patients are sent from abroad to be treated by these unqualified persons without the direction of a physician on this side of the water. Of course it cannot be wondered at if failure results in such cases; but more than this, serious accidents are likely to happen. Cases of chronic heart-disease are always in a more or less precarious condition, and the management of them should be exclusively in the hands of licensed practitioners. Resistant exercises and massage act much as do the baths, as I have already said, but are not so prompt or certain in their action. Both of them improve the superficial and deep circulation, the former by mechanical means, the blood being invited to the limbs and extremities thus obviating congestion of internal organs. In so doing a dilated heart is relieved of its internal pressure and given an opportunity to contract. It must be remembered that the muscles constitute from one-third to one-twelfth the weight of the body, and during contraction their veins and lymphatics are emptied, thus diminishing peripheral resistance, so that the arteries, which are not contracted by the exercises, are free to carry the blood to the extremities. That the heart actually contracts in many cases seems now to have been abundantly shown by numerous experimenters. Indeed, it seems to have been proved with considerable accuracy by the skiagraphs of Schott.[1] As to a comparison between manual and mechanical methods, I desire to speak with caution. It is true that the mechanical method (the Zander, for example) assures precision in its adaptation to a locality and in the regulation method of force; but I doubt if any mechanical method is as well adapted to varying individual needs

[1] Concentrated lime salts are furnished by H. A. Cassebeer, the druggist of this city, at 50 cents per pound; he also furnishes the other ingredients for the bath.

[1] Deutsche med. Woch., April 1, 1897.

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as the hands of an operator backed by skill and intelligence. People sometimes say they do not understand how these grand results are obtained, but the explanation is not difficult to make. While the initial exercises are mild and do not tire the patient they can be made very forcible, and, indeed, produce great weariness; in fact, they are more effective than any form of deep massage, on the other hand, the effect of the baths is due to the warm brine, the gas and the chloride of calcium; each has its special value. The warm bath alone, when it reddens the skin and causes congestion of the capillaries, gives some relief to a dilated heart. Carbonic acid gas is a combined stimulant and anesthetic; while it numbs the skin it also stimulates it. By acting as a local agent this latter effect is intensified by the chloride of calcium. The bath improves the pulse by making it stronger and less frequent. In tachycardia it will reduce the pulse, and in bradycardia will increase it. In one of my cases of tachycardia an average pulse of 125 before the bath fell to an average of 111 after nine successive baths; an average fall of 14 points. In the same patient, with an average of 123 before the exercises, there was an average fall to 110 afterwards, showing, if anything, that the effect of the bath was a little more marked than the exercises. Ordinarily there was a fall of from 3 to 5 points after the bath, but not quite so many after exercising. These statements go to show, as stated, that the baths are more effective than the exercises. On the other hand in a case of bradycardia, I have known an average pulse of 60 to rise to a point between 70 and 74 after a bath. Among other effects of the bath there is increased renal secretion, with some disappearance of exudations in internal parts.

While, however, baths and exercises have gained their principal reputation by employment in the treatment of chronic valvular disease, where compensation has been broken and so-called heart tonics have failed to make the heart respond, carbonated brine baths have also been used in rheumatism and gout, chlorosis, typhoid fever, and in some functional and organic nervous diseases, such as locomotor ataxia, matters to which I have already alluded. I should fail, however, to describe this method accurately if I omitted stating that there should be a definite system of diet, and that the gastro-intestinal tract should be carefully attended to.

But contraindications are important. Baths should not be used in Bright's disease, where the parenchyma of the kidney is seriously involved. In Graves' disease, with cardiac dilatation, baths are of doubtful value. Many cases of arteriosclerosis are not benefited. On the other hand, baths and exercises may be used with advantage in arteriosclerosis sometimes, as, for example, when a well-marked syphilitic history is recognized and treated. In general cardiac dropsy, if extensive, and advanced stages of phthisis there is not much hope for improvement by either baths or exercises. The baths are applicable in my experience to about 80 per cent. of cases of chronic heart-disease with broken compensation. In the remaining 20 per cent. exercises combined with massage may be of considerable help. Although in the majority of cases I use no so-called heart tonics during treatment, one must at all times be prepared to treat the heart in this way and if our treatment by baths and exercises has for any reason to be suspended, we may be compelled to use them. Digitalis still stands at the head as a direct heart stimulant, nitroglycerin is a good second, and strychnine often a good third. In cardiac dropsy digitalis is easily at the head for its diuretic effect; I use it in the form of digitaline (Merck) in a hundredth of a grain doses given every three to eight hours. Nitroglycerin in doses of $^1/_{150}$ to $^1/_{50}$ of a grain I have given as often as every hour. Strychnine in doses of $^1/_{60}$ to $^1/_{30}$ of a grain I give every four hours. Calomel in small doses I usually give two or three times a week; in bad cases I give it daily. As a rule I use Carlsbad salts as a purgative. The bowels must always be kept in a relaxed condition. For sudden attacks of dyspnea I give capsules containing each $^1/_{100}$ of a grain of nitroglycerin, ¼ of a grain of amyl nitrite and menthol $^1/_{50}$ of a grain, with the oleoresin of capsicum $^1/_{100}$ of a grain. These ingredients are suspended in ten minims of castor oil. This combination is very effective in attacks of angina pectoris, whether true or false. Relief is usually given in less than a minute, often in a few seconds. As a diuretic and heart stimulant I have also had good results, though often temporary, from the sulphate of sparteine in doses of $^1/_{20}$ to $^1/_{10}$ of a grain. The monobromate of camphor is used constantly in some neurotic cases. In cardiac dropsy, however, we should always aim first to secure free diaphoresis and for this purpose I use the muriate of pilocarpine (Merck), giving sometimes as much as one grain a day in conjunction with digitalis, nitroglycerin and stimulants. In fact, I have given 1⅗ grains of this drug in a day, because it required this amount to secure diaphoresis. I have never had any ill effects from it, but always have had an experienced nurse to watch its effects. The comparatively small number of cases seen that are beyond the treatment by baths and exercises, and where it is only a question of prolonging life a few months at best.

I do not wish to be understood, therefore, as urging the use of the so-called heart tonics or stimulants; they are the last remedies to be used. I want it fully understood that in broken compensation the effort should be rather to remove obstacles to the circulation than to compel a weak heart to forceful action by the remedies just mentioned, and it is very remarkable how by giving close attention to these simple methods a weak heart will gradually become stronger.

A good deal of interest has lately centered about the comparative methods of skiagraphy, fluoroscopy and percussion, in outlining the heart. It may be remembered that on March 6, 1897, in

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this Academy, I demonstrated a new way to indicate the location, size and movements of the heart, by means of X-ray shadows. At that meeting I was able to mark out the limits of the heart on the fluorescent screen. I called this method *fluorography*, and my confrères, Drs. Porter, Burt and Wilcox, who had examined the patient whom I presented and marked out the heart, were unanimous in stating that by my method there was wonderful correspondence between the two methods. In a recent article by Dr. Williams[1] of Boston I find that his investigations have in a measure confirmed those that I made; if I understand his figures, in 65 out of 71 men he found that the difference between the results of percussion and fluoroscopy was less than three-twentieths of an inch. In 33 out of 38 women, the difference was also less than three-twentieths of an inch. Now this lack of correspondence may appear large, but in reality it does not prove much. For leaving out of question the inevitable inaccuracy of fluoroscopy, we have to deal in these cases often with a wide movement of the heart, as shown by its apex, for example. To be precise in the four cases of dislocated heart from spinal curvature, published by me (*N. Y. Med. Jour.*, Sept. 30, 1899), there was a recession toward the normal of from 5/8 to 2½ inches, or an average of 1½ in round numbers. Evidently then an error, if there should be one, of $^{8}/_{20}$ of an inch in the percussion outline would be of comparatively little importance in these particular cases. It seems to me, therefore, that fluorography, or fluoroscopy, is gradually coming to the front and this view is sustained by the opinion of Stubbert, Abrams, Tracy and Roberts.[2] Skiagraphs are, as Tracy[3] has pointed out, notoriously fallacious, as he shows in a quotation from Dr. Keen of Philadelphia, who, judging from a skiagraph that a bullet lay outside the head of the tibia, cut down upon it, only to find the entire ball within the bone. Of course, skiagraphs have their merits and in this connection it may be well to note the investigations of Schott. Desirous of showing by the X-ray that the heart if dilated will contract under his treatment, he placed a patient with artificially dilated heart[4] on a table, resting on a large piece of paper, the outline of the body indicated by a line carried around the body just as a shoemaker outlines the foot in preparing to make a pair of shoes. Then with the focus tube firmly fixed in a given position beneath the table, and a sensitive plate above the patient and in a fixed position, a skiagraph was taken of the heart. After an interval of rest the patient was skiagraphed on the same table in exactly the same position, with the apparatus also unchanged in position, and the skiagraph showed a positive diminution in the size of the heart. Of course in this case there was the usual distortion, the heart being magnified by the divergent rays from the focus tube, but inasmuch as the patient, the tube, and the plate occupied precisely the same positions in each case a good idea of the contraction of the heart was obtained by comparison of the two pictures. Of course neither fluoroscopy nor skiagraphy give as yet accurate pictures of internal organs, but the errors may not be, in my opinion, insuperable. In a paper read in this building March 16, 1897, I said, speaking of fluorography, that I was not prepared to state that it would supersede percussion for mapping out the heart, but that I could conceive that the size, position and measurements of the heart might be determined by fluorography without either percussion or auscultation. This position I maintain at present, but I see no need of abandoning percussion in favor of these two other methods; and yet I believe that the time is not far off when some simpler plan will be devised for throwing a correct silhouette of the heart on the fluorescent screen. But for the present I find that auscultation in combination with percussion is the best all-round method of mapping out the heart for clinical work.

7 East 80th street.

[1] Philadelphia Medical Journal, January 6, 1900.
[2] Roberts, Philadelphia Medical Journal, Jan. 6, 20, and 27, 1900.
[3] Philadelphia Medical Journal, January 20, 1900.
[4] The patient, a young man, was put under the X-ray after violent athletic exercises which, of course, dilated his heart.

MILK INSPECTION BY THE NEW YORK BOARD OF HEALTH.

By HERMAN BETZ, M.D., Ph.G.,
OF NEW YORK.

THE object of the present communication is to present a brief statement of the routine of milk inspection as carried on by the Department of Health in New York City.

The milk-inspector is appointed from the head of the list after passing a successful Civil Service examination, from which, until recently, all except physicians, pharmacists and chemists were barred. At an appointment of five some time ago four had above 90 points each to their credit after a most severe examination. The knowledge that such men bring to bear upon their work cannot fail to give satisfactory results. The use and handling of apparatus and scientific instruments is no secret to them, and they are, from the start, able to do satisfactory work. Their greatest strength is shown, however, in trials of milk cases, where shrewd lawyers are frequently employed on the other side, and where any one but a man with a scientific training would fail.

The milk-inspector is on duty, technically, all the time; he may be called upon at any hour, day or night, Sundays as well as on week-days, for it is obvious that a dishonestly inclined milk-dealer, who behaves himself during the week, should not be left under the impression that he can do as he pleases on Sunday. I wish to say right here, however, that there are not any more dishonest men engaged in the milk business than in any other business, possibly less. The relation existing between milk-dealer and milk-inspector is much more cordial than it would be supposed; the Department of Health is always fair, and the milk-dealer is absolutely sure of that fact, for he

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very seldom contests nowadays the analysis or the result of analysis of a sample of milk.

There are now employed by the Department of Health ten milk-inspectors in the borough of Manhattan. I am using the borough of Manhattan for an illustration, although the same system prevails in all of the boroughs. The borough of Manhattan is divided into nine milk districts, which makes it possible to have the entire borough constantly covered; the tenth inspector is required to take the place of any one who should be taken from his work by sickness or other reasons; this inspector also makes sanitary inspection in places where milk is sold, when he is not otherwise engaged. The nine districts are so arranged that an equal number, or nearly so, of milk places come within the boundaries of each, which means about 650 in each district on the east side and 700 on the west side.

The milk-inspector is obliged to spend from 9 A.M. to 4 P.M. in actual inspections, after which he writes out a daily report of every place visited by him during the day, giving the time by hour and minute, the name and address of the milk-dealer, the permit number under which the dealer does business, and the temperature and lactometer standing of the milk so examined.

The report must be in the Chief Inspector's hands by 9 A.M. each day. On Monday morning a weekly report also is handed in giving the number of inspections made each day, as well as the total number for the week, his attendance at court, and arrests and fines also must be carefully recorded.

The following instruments and utensils are supplied to the milk-inspector, which he carries about with him in a suitable satchel:

A lactometer; a thermometer (dairy style); a cylinder of tin in which to float the lactometer; lead seals and wire for sealing sample-bottles of milk; one seal punch with two dies, one impressing the lead with "Health Department, Manhattan," the other the inspector's letter which has been given him for his identification as A, B, C or D, etc.; a writing diamond, to mark sample-bottles; six ounce-bottles with two holes in neck opposite each other, through which the wire is passed holding the cork immovable, unless the seal and wire are disturbed, for dealer's sample; four ounce-bottles for samples of milk for analysis at laboratory; one box of labels, gummed on back, for marking above sample with inspection number, sample number and lactometer standing at 60° F.; a book of 50 labels to mark dealer's sample, as also a stub corresponding with same, which is afterward attached to the analysis report; a book in which is reported the year, month, day, hour and minute when inspection is made, the number of inspection, the name and address of the dealer, number of years in business, number of quarts sold per day, number of permit under which business is done, name and address of the wholesale milk-dealer from whom he receives his supply, the gross and net lactometer standing and the temperature of the milk examined, also physical properties, odor, taste and appearance, the name of person present when examination is made, whether proprietor of store or representative, and, lastly, the mark which is found on top of cover of milk-can.

The mode of inspection is as follows: When an inspector enters a place where milk is sold he announces this fact to the proprietor of the place or his representative. After he has satisfied himself that the milk is properly cooled and utensils for measuring are clean, he stirs the milk thoroughly, fills his tin cylinder within two inches of the rim, leaving room for displacement by lactometer; the lactometer is then carefully lowered into the milk care being taken that the stem is dry. While the lactometer is allowed to come to rest, the thermometer is used to carefully note the temperature, this and the lactometer's reading are carefully entered in the inspection-book and for every three degrees of temperature below 60° F. one degree is deducted on the lactometer, or added if the temperature is above 60° F. Should the milk present a good appearance and stand somewhere between 108 and 112° on the lactometer at 60° F., the milk-inspector will pronounce the milk good, but if the milk should stand below 108 or above 112° net on the lactometer, and not be of good physical appearance, he will consider the milk suspicious and proceed to take a sample from same, as follows: The proprietor of the milk-store, or his representative, will be asked if the milk is for sale. Should he state that it is for sale the inspector will ask him to stir the milk well himself and again test with thermometer and lactometer, calling the proprietor's or his representative's attention to the various points; should it be possible to procure another witness to the proceedings it is desirable to do so. The six-ounce bottle mentioned above is then filled up within a short space below the neck to allow sufficient room for expansion and the cork forced in well below the two perforations mentioned above. The wire is then passed through the orifice in the bottle, forced through the cork and out through the opposite perforation in the bottle, and then wound twice around the neck of the bottle and over the groove in the lead-seal, which is then forced down over the wire by the punch until it presents a quite flat appearance with the imprint on both sides, as described above, and from which the wire cannot be removed without destroying the seal and imprint. The sample is then labeled with the part of page which corresponds with the stub described, and which is gummed on the reverse side. Both stub and label are counterparts of each other bearing number of inspection, date, name and address of dealer, reason for taking sample, inspector's name and the number of sample. This bottle is then sealed and labeled as described above, and handed to the dealer or his representative, to be held by him, or to be given to a chemist for analysis if he so chooses. This is now done but seldom, dealers, both wholesale and retail, are so convinced of the absolute correctness with which analyses are made at the Depart-

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ment laboratory that they usually instruct their lawyers to concede the analysis. The four- ounce square bottle is now filled with some of the same milk, and to this is attached a square stick-label bearing inspection and sample number as well as inspector's letter described before. The inspector now proceeds to the laboratory of the Department. When he arrives there he will hand the sample bottle to the chemist or assistant chemist in charge, who will sign a receipt for same on a ticket made out by the milk-inspector, on which are again given the milk-dealer's permit number, year, month, day, hour and minute of inspection, but the space for the milk-dealer's name and address is left blank for the time being; the ticket also gives the wholesale dealer's name and address from whom the retailer receives his supply, and the number of specimens of milk examined, their standing both by lactometer, thermometer, and net, also physical appearance. As this ticket is used by the inspector on the stand in trials to refresh his memory, it is made out with great care, and gives in addition to the above facts the recorded numbers of the instruments used, for it has happened in some important trials that the correctness of the instruments has been questioned. For this reason as soon as a lot of lactometers or thermometers is received from the manufacturer they are carefully tested in our laboratory; if they come up to the standard they are accepted, numbered and the record of the same is kept at the Chief Inspector's office; if they are found to vary perceptibly they are rejected. The same ticket also records the fact whether the can from which the sample has been taken was wired, the amount of milk the can contained, the fact that the milk had been stirred by the proprietor or his representative, the marks found on shoulder and cover of can, the location of the can in the store or place in which the milk was sold; whether the can contained a dipper, whether this inspection was made on the regular routine inspection or upon a complaint from a citizen, the total number of cans examined at that particular inspection, the name of the witness present at the time of inspection, and also a space in which to record the date on which the warrant was obtained. In case of prosecution the number of the City Magistrate's Court, the date, when, and the amount of bail obtained, and, finally, the Court in which the case was tried and the amount of fine paid or the disposition of the case, whether dismissed altogether or sentence suspended. All this is recorded on the front of the ticket; on the reverse side is given, first, the receipt of the chemist for the sample, then the analysis as follows:

Water, per cent.; total solids, per cent.; fat, per cent.; solids not fat, per cent.; per cent. low in solids; per cent. low in fat; borax, present or absent; salicylic acid, present or absent; formaldehyde, present or absent; reaction, acid or alkaline.

The name of the assistant chemist who has performed the analysis is also given and is countersigned by the chemist. This completes the ticket, as far as the inspector can complete it at that particular stage. The ticket with the stub is then handed to the clerk in charge of milk analyses in the Chief Inspector's office, which ends the milk inspector's duty for the present as far as this particular sample is concerned. The clerk in charge of milk analyses, just mentioned, enters up all the facts given in a book in which spaces are provided for all the facts given above; the ticket is then placed in an envelope with others which may come in on the same day, giving the exact time when received from the inspectors, when forwarded to the laboratory and when received back again. After forty-eight hours the analysis is finished and the chemist will then fill up the space provided for percentages of water, total solids, fat, etc., and whether the milk has been found unadulterated or short in total solids or fat, giving the exact amount. The ticket is then immediately returned by the chemist to the clerk in charge of milk analysis, who enters up all the various facts found by the chemist and then fills in the name and address of dealer from the stub. The ticket is now ready for the Chief Inspector who will determine by the percentage of fat or total solids shortage whether an arrest is to be made or not. The rule followed at present is that the dealer is to have the benefit of the doubt up to four per cent. of solids and nine per cent. of fat, but if the shortage is five per cent. or over in total solids, or a shortage of ten per cent. or over of fat, prosecution is at once to be started; such tickets are, therefore, signed by the Chief Inspector and stamped "Arrest" or "Do not arrest," and after the ticket has been countersigned by the Sanitary Superintendent the clerk in charge of milk analyses will notify the milk-inspector that a ticket is awaiting him at the office for arrest. The milk-inspector upon receipt of the ticket prepares an affidavit of the facts in the case and asks for a warrant for the milk-dealer's arrest in the City Magistrate's Court in whose districts the violation has taken place. This warrant is usually granted and a day of hearing is set, the warrant is served by a court officer in as inoffensive a manner as possible; that is, by simply notifying the dealer that his presence is required in the court to which the officer is attached, for violation of the Sanitary Code by selling adulterated milk, and that probably it would be best for the dealer to bring with him a bondsman. At the day and hour set for the hearing the milk-inspector states his case and requests that the defendant be held under bond for trial in Special Sessions. The City Magistrate usually names a bail amount of $100 which the milk-dealer furnishes through a friend, or in many cases the wholesale dealer who has furnished the milk furnishes the bail. If the defendant is represented by counsel, the counsel frequently requests a hearing, but the outcome is usually the same. After a lapse of but a short time the case is set down for trial at Special Sessions, where the judges without exception have taken great in-

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terest in these milk cases; some of them even have taken the trouble to inform themselves of the various stages of analysis, being present during an actual analysis at the laboratory. They are well posted in relation to the provisions of the Sanitary Code and the agricultural laws of this State relating to milk and dairy matters, total solids, fat, solids not fat, the name of antiseptics and like terms and their meanings which are usually so puzzling to outsiders, and even lawyers who try these cases understand them as well as any chemist. It is directly due to this intimate knowledge of terms, facts and matters connected with the scientific part of milk analysis, and the recognition of the earnest efforts of the Health Department to improve the milk supply of the City of New York, that it has been able to carry on milk-inspection with satisfactory results; for what would all this work amount to did not the courts so ably and conscientiously carry out their part.

Tickets which have been used for prosecution are filed in a record cabinet in alphabetic order, separately from those where no prosecution was deemed necessary, or where upon analysis of the sample it was found that the milk was unadulterated.

Since 1896 the Department of Health has required every dealer in milk to take out a permit, in order to better regulate the care of milk and enforce the Sanitary Code. A prospective dealer applies at the Department office in person for a permit by filling out an application giving his name and address, the kind of business he is engaged in, the amount of milk—approximately—he expects to sell per day, the dealer from whom he is to derive his supply, the hour of day the delivery takes place and the can-marks he finds on the cans, also whether he intends to handle any condensed milk in bulk, and, furthermore, where he intends to keep the milk in storage while selling, if in an ice-box or in tubs, whether such receptacles are connected with the sewer or not. This application he signs and is then given at once a temporary permit, which he may show to the inspector when he makes his customary round; for it is one of the milk-inspector's duties to at once report any places where milk is sold without a permit. The temporary permit, therefore, is required to prevent confusion and unnecessary reporting. After the application mentioned above is placed on file, the name and address is given to the milk-inspector who is making his sanitary inspection as mentioned at the beginning of this article. Should this inspector find that the place is in a sanitary condition he so reports at the office at once, and the application goes forward to the Board, and will very probably be granted at the next Board meeting. The inspector, however, may find that the place inspected is not in proper condition, and this may be due to various causes; the most frequent one is that there is but one room, without any partition, and the proprietor of the place, or his help, sleep in the rear part, or the rear part is used for other domestic purposes; or the place is kept in an unclean condition, or the receptacles in which the milk is kept are not proper; in all such cases the inspector will give directions as to what necessary changes have to be made to put the place in proper shape. A reasonable length of time is given to make the change, the regular permit in the mean time is withheld; if, however, at the next inspection nothing has been done to bring about the sanitary condition necessary, the permit will be refused and the dealer compelled to give up the sale of milk. After the granting of the permit the dealer calls for it, issued to him without charge but it is revocable at the pleasure of the Board of Health, and must be hung up in a conspicuous place; for that purpose the permit is printed on heavy cardboard. This permit need not be renewed, but should a dealer be twice convicted of the sale of adulterated milk the permit will be taken from him, revoked, and the Department will never allow him to sell milk again. For this purpose a record is kept at the Department of all dealers and their convictions, on cards especially adapted for that purpose.

The wholesale dealer is obliged to furnish more direct information if he received his milk from the farms; he must give the farmer's name and address, the station from which the milk is shipped, and the railroad carrying same; also the time of arrival of the milk at the terminal station and the number of hours the milk is in transit. In addition to this he must furnish the name of the breed of cows the farmer keeps, the number of cows and the water-supply for the cows and the water used for cleaning cans and other utensils. If a creamery supplies the milk a special blank is filled out giving the name of every farmer contributing milk to this particular creamery and all other information required, as in the case of the shipment by the farms direct. The permits issued to the wholesale dealer will be as many as the wagons he employs; he is also obliged to give the name of the driver employed and the driver's address. These permits are to be carried by the driver, and the number of same must be painted on each side of the wagon in some contrasting color to that of the wagon and in letters one-half inch wide and two inches long. There are at present 7000 store-permits and 1800 wagon-permits in existence.

An arrangement exists between the Department of Health of New York City and the Boards of Health of the various States from which milk is shipped to New York to immediately notify this Department if any contagious or infectious diseases have broken out at any town, village or settlement within their jurisdiction from which milk is shipped, this information to be given by telegraph, upon receipt of which the Department takes steps to immediately quarantine the milk from that particular place. In order to do this effectively a record is kept at the Department of the various railroads and the districts they tap, the party who receives milk from such places in this city and the amounts received. This record has been on several occasions of the greatest ser-

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vice in preventing the spread of disease. The compilation of this record is the work of one of the milk-inspectors now employed by the Department, and required rare tact and ability and unceasing work for nearly six months; not in the day-time, but principally at night and in all kinds of weather, because ordinary information could not be relied upon, but had to be verified by actual count and checking at the various depots, ferries and receiving stations, at the arrival of the milk-trains; but the work was splendidly done and the record is to-day, with occasionaly changes and additions, one of the most highly prized in the possession of the Division of Milk Inspection.

456 Manhattan avenue.

SURGERY OF THE EPIPHYSES.

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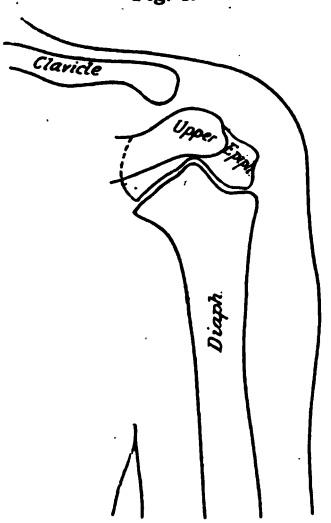
MANY of the epiphyseal separations are mistaken for fractures in the neighborhood of the epiphyses. The Roentgen ray is revealing with a great degree of accuracy the lesions after traumatism to joints. Along with perfection of diagnosis comes obligation to correct deformity in order to secure greater functional usefulness. This obligation, because of perfection of aseptic technic, necessitates the open incision of many closed fractures and epiphyseal separations. To state all the conditions under which fractures and separations should be operated upon is impossible until more experimental work is done and the results are fairly compared.

Fig. 1.

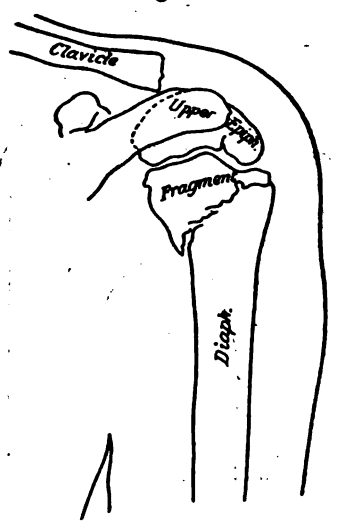


Normal epiphysis of upper end of humerus in a boy aged seven years.

Poland and Bruns, in 1884, each advised operation when the deformity following the injury to the bone could not otherwise be reduced, or could not be held reduced. As in all operations involving joint surfaces, the surgeon should be skilled in aseptic technic and every minute detail of operative surgery should be carried out with the greatest care.

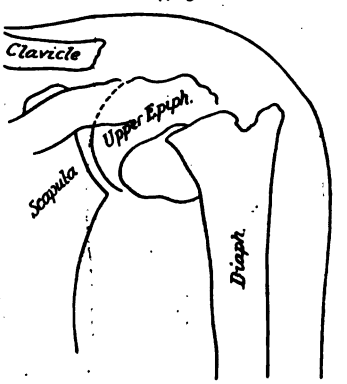
The publication of John Poland's[1] book upon the traumatic separation of the epiphyses, published in 1898, establishes a scientific basis upon which the surgery of the epiphyses may rest. It is a valuable work, not alone for the original investigations made by the author, but for the great mass of scientific material systematically presented. It is exhaustive and extremely suggestive. The development of the epiphyses of the long bones should be carefully studied. The important details in the anatomy of the epiphyses should be constantly in mind during the examination of an injury in the neighborhood of joints.

Fig. 2.



Fracture of diaphysis of humerus close to epiphysis. Epiphysis injured, but not displaced.

Fig. 3.



Fracture of the diaphysis of humerus close to the epiphysis, as in Fig. 2, before attempt at reduction.

The following cases of surgery of the epiphyses are reported:

Case I.—In June, 1899, I saw, in consultation with Dr. Godfrey of Littleton, Mass., a boy four-

[1] Traumatic Separation of the Epiphyses; John Poland, F.R.C.S., London: Smith, Elder & Co., 15 Waterloo Place, 1898.

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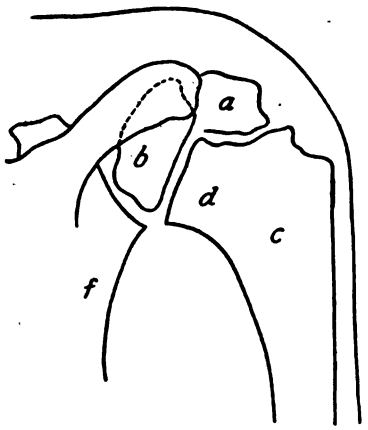
teen years of age who had fallen from the roof of a shed and sustained the following injuries: Separation of the lower epiphysis of the left humerus, with a dislocation of the diaphysis of the humerus forward through the skin upon the outer side of the upper arm, and a closed fracture of

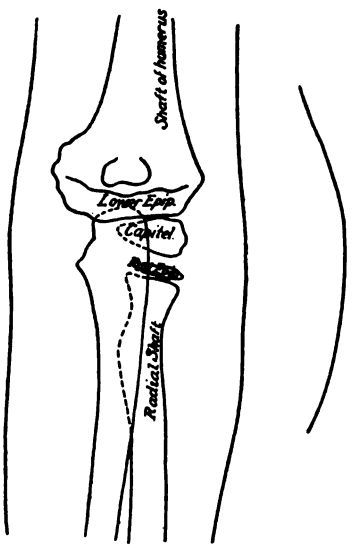
Fig. 4.



The same case as Fig. 1. Skiagraph taken six months after the injury.

the radius and ulna of the same arm at the junction of the middle and lower thirds. The bone was very thoroughly cleansed by scrubbing with corrosive sublimate, the wound of the soft parts was completely cleansed with the same solution. The wound of the soft parts was enlarged in order to admit of easy access to the seat of

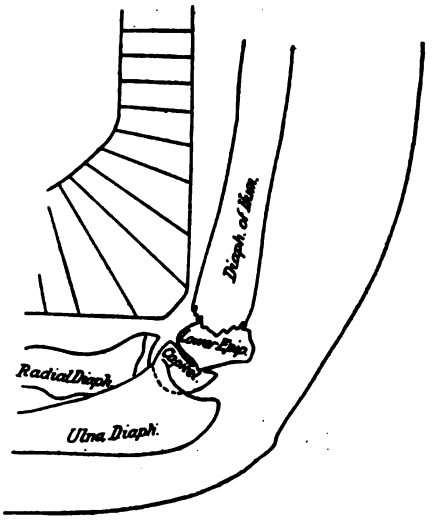
Fig. 5.



Normal elbow. Forearm extended. Note the relations of the epiphyses.

fracture. The joint was found open. A counter-opening was made on the inner side of the arm to allow of more thorough cleansing of the deeper parts of the wound. Small wicks were left in each wound. The arm was put up in a plaster-of-Paris dressing, the forearm semisupinated, Two years and two months after the accident all movements of the forearm and elbow were normal. The carrying angle was lost and the left hand and forearm were smaller than the right. The humerus measured the same upon each side from the acromion to the external condyle.

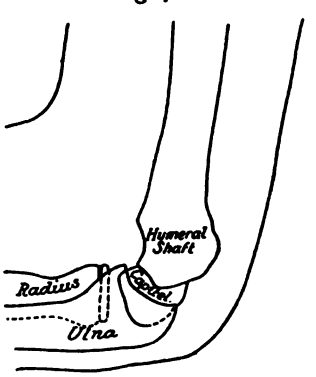
Fig. 6.



Separation of lower humeral epiphysis. Immediately after reduction. Internal angular splint in position. Arm at right angle.

Case II.—A boy, seven years of age, as a result of a comparatively slight fall, fractured the diaphysis of the humerus close to the epiphyseal line. There was also contusion of the epiphysis itself. The symptoms closely simulated those of separation of the epiphysis. The boy pre-

Fig. 7.



Separation of lower humeral epiphysis. Six months after the accident. Arm at right angle. Callous swelling on humeral shaft. Note position of capitellum.

sented a much swollen shoulder, upon the anterior surface of which was a prominence below the normal place for the head of the bone. The head of the bone was felt to be in the glenoid cavity. The upper end of this prominence was continuous with the shaft, was rather smooth, and projected like a shelf upon the anterior part of the shoulder. The prominence moved with the

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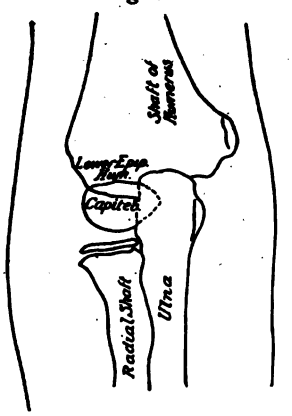
movements of the humeral shaft. Muffled and cartilaginous crepitus was felt very distinctly upon moving the shaft of the humerus while the head of the bone was held fixed. There was shortening of the left humerus. Measurement was taken from the acromion to the external condyle of the

Fig. 8.

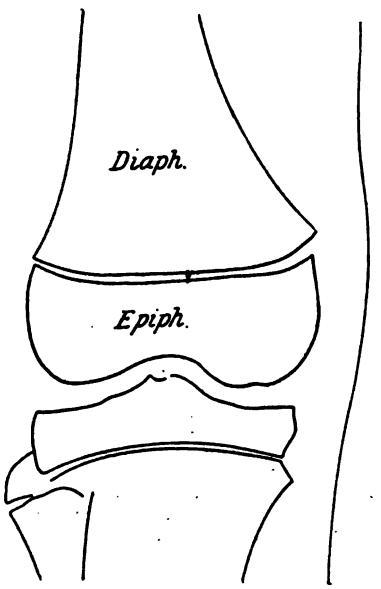


Separation of lower humeral epiphysis. Six months after the accident. Arm in extension. Humerus thickened at line of diaphyso-epiphyseal junction.

humerus. The tracings of skiagrams taken the day of the accident and of those taken six months later are extremely instructive. Functionally the arm is perfectly useful. Extreme abduction is very slightly limited. (See Figs. 1, 2, and 3.)

Case III.—A girl, six years of age, after

Fig. 9.

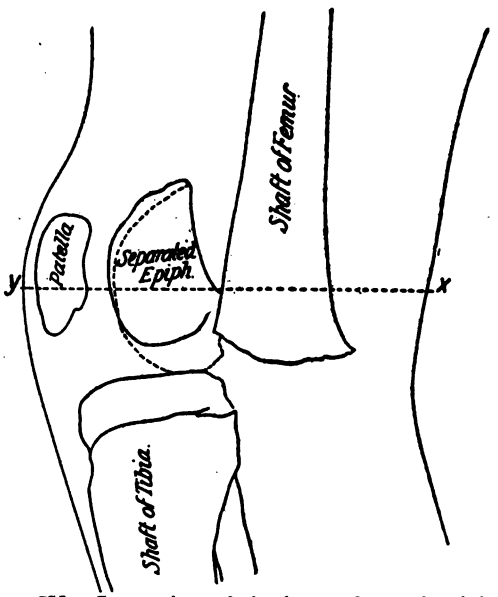


Case IV.—Normal knee of a boy 11 years of age. Epiphyses in anteroposterior view.

slight trauma to the elbow, showed a separation of the lower humeral epiphysis. There was present unusual lateral mobility at the level of the epiphyseal line. The lower end of the diaphysis of the humerus projected slightly forward, the separated epiphysis was displaced with the forearm backward. Muffled crepitus was present. The deformity tended to easy reproduction. Considerable swelling of the elbow existed. There were no complications. The child was etherized and by traction and counter-traction upon the forearm and upper arm respectively the displacement was reduced. Immobilization was secured by an internal right-angled splint. After six months the functional usefulness of the elbow was good and all the movements of the elbow-joint were normal. The tracings of the skiagraph are correct interpretations of the condition present. (See Figs. 5 to 8, inclusive.)

Case IV.—On March 22, 1899, a boy, eleven years of age, entered my clinic at the Massachusetts General Hospital with a swollen and deformed knee. He was said to have caught the leg

Fig. 10.



Case IV.—Separation of the lower femoral epiphysis. Lateral view immediately after the injury. Knee thick- and through the level of the popliteal space. *y*, *x*.

in the spokes of a revolving wagon-wheel. The left knee appeared swollen and the leg was carefully steadied by the boy in order to avoid any jarring. From the anterior superior spine to the internal malleolus there was seven-eighths of an inch shortening upon the left side. This shortening was wholly in the thigh. The whole leg rotated inward, the great toe pointing toward the right. A slight abrasion was noticed over the patella. There was a distinct hollow just above the patella. A great fulness existed in the upper part of the popliteal space. The circumference of the knee over the middle of the left patella was 13¼ inches; over the right patella it was 11¼ inches. The circumference of the right thigh, upper border of patella, was 11 inches; left thigh, upper border of patella, 13¼ inches; right thigh, one inch above patella, 11⅛ inches; left thigh, one inch

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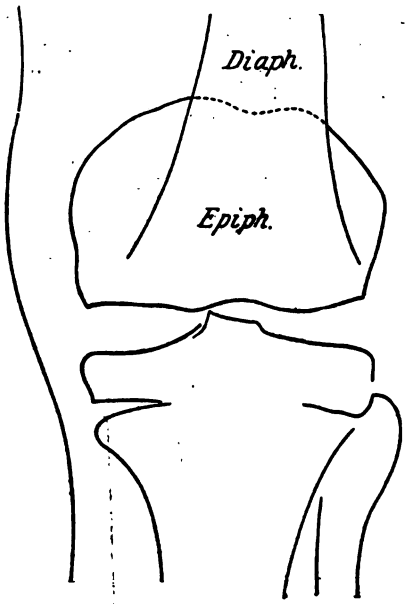
above patella, 12⅝ inches; right thigh, three inches above patella, 13 inches; left thigh, three inches above patella, 13½ inches; right thigh, six

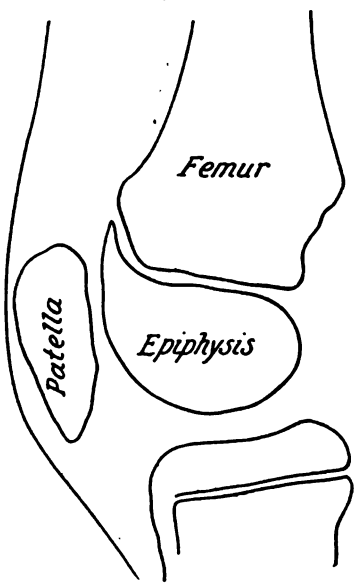
Fig. 11.



Case IV.—Separation of lower femoral epiphysis. Anteroposterior view taken immediately after the accident. Compared with the normal knee showing shortening, displacement and rotation of lower epiphysis of femur.

inches above patella, 15¼ inches; left thigh, six inches above patella, 15⅜. The crest of the tibia was apparently on a level with the an-

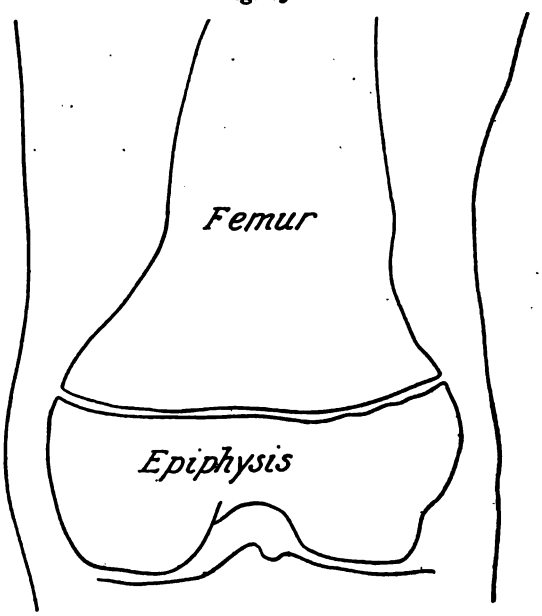
Fig. 12.



Case IV.—Separation of lower femoral epiphysis. Lateral view nine months after accident. See femoral epiphysis. Compare with Fig. 10, before operation.

terior surface of the patella, the tibia having been forced forward and at the same time drawn upward toward the lower end of the diaphysis of the femur. Great lateral mobility existed at the knee-joint. The lower end of the femur (its epiphysis) could be palpated lying above the patella. The nature of the accident in a boy eleven years, the shortening of the leg, the deformity in lateral view, and the lateral mobility at the knee-joint, led me to make a diagnosis of separation of the lower femoral epiphysis. The Roentgen ray confirmed this diagnosis and located the exact situation of the fragments. Under ether anesthesia, the thumbs were placed upon the separate epiphysis while, with the hand and fingers grasping the thigh below the knee, great pressure was exerted upon the epiphysis which was felt to slip over the lower end of the femur into its proper position. Measurement showed both legs the same length. The knee was then immobilized by a plaster-of-Paris splint extend-

Fig. 13.



Case IV.—Separation of lower femoral epiphysis. Anteroposterior view nine months after the accident. Note thickening of lower part of humeral shaft, seat of callus and periostitis corresponding to the area of denuded bone. Compare with shaft of normal femur (Fig. 9).

ing from the toes to the groin, the limb being in a slightly flexed position. At the end of one week upon careful inspection the deformity was found to have recurred. An open incision was then made, as reduction by manipulation was impossible. An incision was made parallel to the long axis of the leg over the displaced diaphysis of the femur. A short transverse incision was made at right angle to the longitudinal incision to gain access to the epiphysis. By means of periosteum retractors, inserted above the epiphysis and below the diaphysis, great traction and counter-traction were exerted upon the epiphysis and diaphysis respectively, until the epiphysis was reduced. The periosteum was found stripped off the lower one-fourth of the shaft of the femur. The leg was

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put up in a plaster-of-Paris splint with the knee flexed at an acute angle. In this position there seemed to be less likelihood of displacement. The boy made a good recovery. Several attempts were made under ether to make passive motion during the first two months after the operation. The present condition (ten months after the operation) is as follows: The left thigh is ½ inch less in length than the right; the left thigh is 1/2 inch less in circumference, and the left calf 1/2 inch less in circumference than the right. Flexion is possible beyond a right angle. Extension is very slightly limited. The boy walks with a slight limp, which is growing less as he regains confidence in the limb. He has now good functional use of the knee on that side. The tracings of the skiagraphs after the operation are extremely interesting. The periostitis along the lower end of the shaft of the femur corresponds to the area of bone denuded of periosteum as seen at the operation. (See Figs. 9 to 13, inclusive.)

CLINICAL MEMORANDA.

A UNIQUE CASE IN OBSTETRICS.[1]

BY FREDERICK H. PARKER, M.D.,
OF AUBURN, NEW YORK.

IN April, 1897, I attended a young woman during her first confinement; everything passed off normally and easily and recovery obtained without incident.

About four or five months after the birth of this child the mother came to me stating that "she feared she was in trouble again; that she was nursing the child; that five or six weeks after the confinement she menstruated regularly (once or twice) and had seen nothing since, and believed that she was pregnant." I told her women were sometimes menstruated irregularly when nursing, and to leave it for another month or so, and return for examination.

I heard nothing more for several weeks, when one day she came in, and said "she was all right, had menstruated with a profuse flow (although not sufficient to disable her) and felt that she had been unnecessarily alarmed. I saw her occasionally after this, and she always acknowledged being in good health, and menstruated regularly until the winter of 1899. In the early spring she came to me and said she was pregnant and would need my services the last of December.

All went well (with the exception of an occasional aching in the right side) until the day before Christmas, when her husband came to me and said "two small cords have been hanging outside for twenty-four hours, with occasional light pains, and considerable backache." I hastened to her expecting to find a prolapsed funis. Instead, I was surprised to find two little legs, each about as large as a small lead-pencil, presenting, with the cervix about one-half dilated, and membranes intact.

I introduced two fingers into the cervix, and without much effort extracted the skin and skeleton of a fetus about six inches long, which looked as though it had been put through a clothes-wringer (the viscera and brain had entirely disappeared) a small shrivelled umbilical cord being attached which broke off. Labor did not come on at once, but twenty-four hours later I delivered her of a well nourished and healthy infant of ten pounds. On examining the secundines I found nothing to indicate a placenta, excepting a portion of the sac of the infant, about four inches in diameter, which was thickened to about one-eighth inch. The mother made an uneventful recovery.

We hear of certain cases of superfetation, but it seems queer to me that a woman should carry a dead fetus for two years and then conceive again, and go through a normal, healthful gestation to full term.

[1] Read at the annual meeting of the New York State Medical Society, held at Albany, January 30, 31, and February 1, 1900.

A CASE OF BRAIN TUMOR, WITH EXHIBITION OF SPECIMEN.[1]

BY HUGH T. PATRICK, M.D.,
OF CHICAGO, ILL.

THE patient from whom this brain was removed was thirty-five years of age and presented an interesting sequence of symptoms. He was time-keeper in a large billiard-hall and had contracted syphilis about nine years before the first symptoms of his last illness. It was first noticed that he began to be inaccurate in figuring up the amounts due, and the cashier found he was making mistakes. One day he had an apoplectoid attack, fell, and is said to have had a convulsion, although the history is not clear as to this. He was unconscious for a time, and on recovery his right side was found to be weak. This disappeared quite rapidly and he resumed work, but some time afterward he had two similar attacks, more severe, and attended with convulsive movements. Following these attacks the use of the right arm became impaired. He was sent to me by Dr. McMartin while I was out of town, and Dr. S. J. Walker took a careful history, examined him carefully, and concluded that the case was one of general paresis. On my return to the city I examined the man and concluded that it was not a case of general paresis. While the man had most of the mental symptoms of general paresis, was cheerful, inclined to joke and be facetious, had tremor of the tongue and of the lips, impairment of memory and stumbling speech, as well as pronounced increase of the knee-jerks, his pupils were equal and normal in every respect and he had decided paresis of the right arm. On account of the distinctly focal character of the paresis of the right arm, more than for any other reason, I believed the case to be other than general paresis. After a few weeks I made a more careful exam-

[1] Read at a meeting of the Chicago Neurological Society.

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ination and found wasting of the muscles of the right arm, with partial reaction of degeneration, which rather inclined me to go back to Dr. Walker's diagnosis. The man had had syphilis some nine years previously, for which he was thoroughly treated here and at Hot Springs, but not for any great length of time. By this time he was having occasional spasms of the right arm, after each of which it would be much weaker for a time, then it would recover its previous strength, which, as stated, was not normal. He was placed on very active syphilitic treatment and improved considerably. His mental condition improved the most; the paresis of the right arm improved very little. He was so well mentally that his two brothers told me he was as well as ever, which, however, was not the case. There was still some mental impairment, and his speech was not quite as fluent as it should have been, although much better than before. The previously existing tremor, general nervousness and insomnia disappeared. Then he came to a standstill, improved no further and after a little time the localized spasms of Jacksonian fits in the right arm became more frequent and severe. He had neither headache, dizziness, vomiting, nor tinnitus, and choked disc was absent, so that tumor of the brain was excluded. The diagnosis lay between general paresis and brain syphilis, and, finally, I excluded the former because he did not get worse, and because the symptoms of paresis had cleared up considerably under specific treatment. I concluded that it was a case of syphilitic arteritis; that he had had three severe attacks of thrombosis, and that one of these had left a cicatrix in the cortex which had become non-progressive, which could not be improved by treatment and which accounted for the weakness in his right arm, as well as for the Jacksonian fits, because thrombosis is frequently the result of syphilitic arteritis, more frequently cortical than deep, and a cortical lesion, whatever it may be, is ordinarily the cause of focal fits. The case seemed to follow out my diagnosis nicely, for one day the man apparently had a more severe and extensive thrombosis, which left him with complete right hemiplegia, followed three weeks later by another attack coming on in the night, from which he died after three days. On looking at the brain after removal there was nothing abnormal to be seen on the surface, except a slight adhesion at one place over the arm center, on the left side where the pia had been adherent to the dura. Before cutting in to the brain, I attempted to locate the fissure of Rolando, but could not do so, which confused me not a little. Then I stripped off the membranes until satisfied that I had the fissure, which I found to be greatly distorted, the middle of it having been pushed forward. On incision at this point, I discovered a tumor larger than an egg. Dr. Herzog kindly made a microscopic examination and reports that the growth is a glioma. When the brain was removed and placed on the table, I do not believe any man could tell whether or not there was a tumor in its substance. It is a question whether, if an incision into the brain had been made during life for the purpose of removing the growth with the oozing of blood which would have followed, even after careful ligation, it would have been recognized as a tumor if cut into, as the consistence and color were very much like that of the brain itself.

OBSERVATIONS ON A SPIRILLUM OCCURRING IN FALSE MEMBRANE ON THE TONSIL.[1]

BY CHARLES F. CRAIG, M.D.,
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ACTING ASSISTANT-SURGEON U. S. A., LATE DIRECTOR OF THE BACTERIOLOGICAL LABORATORIES OF THE STERNBERG U. S. GENERAL HOSPITAL, CHICKAMAUGA PARK, GA.

THE number of spirilla as yet described is comparatively small, and this is especially true with reference to those occurring in the human body. The cholera spirillum of Koch, the spirillum of Obermeier and the Finkler-Prior spirillum are the best known of this class of micro-organisms, but in addition to these a few others have been described as occurring in man, in health and in disease. The following list includes the spirilla which have been found associated with man and is, as far as I know, complete.[2]

Spirillum choleræ asiaticæ, of Koch, found in the discharges from, and in the cadavers of, cholera patients. It is aërobic or facultative anaërobic, sometimes produces pigment, liquefies gelatin, and is motile. *Spirillum Obermeieri*, found in the blood of sufferers from relapsing fever. Has not been cultivated. *Spirillum of Finkler and Prior*, found in the discharges from patients suffering from choleræ nostras. It is aërobic, facultative anaërobic, liquefies gelatin, and is motile. *Spirillum sputigeneum* of Miller, found in the sputa in health. Has not yet been cultivated. *Spirillum dentium* of Arnt, found beneath the margins of the gums in healthy individuals. Has not been cultivated. *Spirillum or vibrio nasale of* Weibel, found in nasal mucus. Is aërobic, facultative anaërobic, does not form pigment or produce liquefaction of gelatin, and is motile. *Spirillum of Miller*, found in carious teeth. Is aërobic, facultative anaërobic, liquefies gelatin, and is motile. Does not produce pigment.

It will be seen from this list that our knowledge of the pathogenic spirilla is very limited, and each new fact concerning them is of interest.[2] I have, accordingly, in this paper briefly described a spirillum which was found in immense numbers upon and in a false membrane occurring in the tonsil. The history of the case is as follows:

Lt. R., a young man, complained of difficulty in swallowing and soreness of the throat on the right side. He did not have headache, fever, nor other constitutional symptoms. Examination of the throat showed an enlarged, slightly reddened

[1] From the Bacteriological Laboratory, United States General Hospital, Presidio, of San Francisco.

[2] In Migula's latest monographic systematic treatment of this group, it is to be noted that most of these forms are relegated to the genus microspira. [Ed.]

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right tonsil covered with a thick, dirty, white membrane, which occupied the posterior portion and extended to the surrounding mucous membrane of the fauces. The left tonsil was normal in size. The throat appeared somewhat inflamed in the region of the affected tonsil. The false membrane, upon closer examination, appeared irregular in contour, with sloping edges and uneven surface. It could be easily removed and left a smooth and but slightly reddened tonsillar surface beneath. The patient was ordered treatment and in a few days the membrane disappeared. An antiseptic gargle was used. Cultures on Loeffler's blood-serum were taken as the membrane looked like that of diphtheria.

Description of the Spirillum.—A portion of the membrane removed and examined by means of the microscope showed it to be composed of degenerated epithelium and of an immense number of very active spirilla. Cocci and bacilli were also present, but in very much smaller numbers. These spirilla were large, from 20 to 35 mikra in length, but very narrow. They resembled much the spirilla of relapsing fever in their size and shape and formed, in some places, large, entangled masses. They were very active, their movement being serpentine in character, as a rule, and very rapid, but sometimes vibratory and rotatory. In looking at a field filled with the spirilla, they resembled nothing so much as a mass of wriggling little serpents. The membrane was found to be composed almost entirely of epithelial débris and these bacteria. As it was thought that, perhaps, this organism might be either the spirillum described by Miller or Arnt, smears were made from material taken from under the gums and from between the teeth, but the spirilla were not found in them. They seemed to be limited entirely to the false membrane. They were very slender in comparison with their length and presented a homogeneous appearance throughout.

Staining.—They stained readily with all the ordinary aniline stains, as methylene blue, fuchsin, gentian violet, etc., but not very intensely. They stained uniformly throughout, there being no metachromatic granules present. Carbolic fuchsin seemed to stain them better than anything else. They invariably decolorized when Gram's method was employed.

Culture.—The blood-serum tubes first inoculated showed nothing but a mixed culture of staphylococci and a short, thick bacillus. Cultures were afterward made upon agar, blood-serum, and bouillon, but were always negative, showing that the organism could not be artificially cultured upon the ordinary nutrient media. This fact, together with the uncertainty caused by the mixture of organisms in the membrane, rendered animal experimentation useless.

The only spirilla occurring in the mouth with which these organisms might be confused are those of Miller and Arnt, but the morphology of these organisms is entirely dissimilar. These are much longer and narrower, while the fact that they could not be found around the teeth nor in scrapings from under the gums removes all doubt concerning their identity with the spirilla described by the investigators mentioned.. The occurrence of spirilla in this situation in such large numbers is very interesting and their strict localization in the false membrane and tonsil would indicate that they were instrumental in the etiology of the condition present. In making smear preparations especial care was taken to secure material from the crypts of the tonsil, which were filled with exudation, and in such smears the spirilla were found in almost pure culture. Bleeding was not produced when the membrane was removed nor when the tonsillar crypts were emptied. Constitutional symptoms were not present and the only local symptom was the soreness of the throat. The membrane was thick and rather pulpy in consistence and very closely resembled, on inspection, a diphtheritic membrane, but here the resemblance ceased, as it was not adherent nor did it leave a raw or bleeding surface when detached. It differed from the exudation occurring in tonsillitis in that it was so easily removed, even from the crypts, while the tonsil itself was but little enlarged and not very painful.

The chief points of interest connected with this organism are: Its large size, its extreme activity, its decolorization by Gram's method of staining, and its occurrence in almost pure cultures in a false membrane of which it formed a considerable part, and in the crypts of the diseased tonsil. The case is of further interest because of the resemblance of the false membrane to that of diphtheria, and as showing the value of a microscopic examination of the exudate in all tonsillar affections.

MEDICAL PROGRESS.

Apomorphine in Tachycardia.—Attacks of tachycardia, idiopathic in nature, or accompanying valvular lesions, are oftentimes only slightly amenable to treatment, and any new, successful remedy is gladly received. P. Zenner (*N. Y. Med. Jour.*, March 3, 1900) claims that he has been successful in stopping such attacks in several cases by the hypodermic use of apomorphine in doses sufficient to cause nausea and vomiting. After being used in the same case for several attacks it seems to partially lose its power.

Camphoric Acid in Night Sweats.—At a lecture given at the Cleveland General Hospital, by J. B. McGee (*Bull. Cleveland Gen. Hospital*, Oct., 1899) reports on the value of camphoric acid as an antisudorific especially in the colliquative sweats of tuberculosis. There are other agents, as atropine, for example, which may be equally efficient, but whose coincident effects are disagreeable. Camphoric acid rarely disagrees with the patient and may be given either dry on the tongue or in a wafer. Fifteen to twenty grains are usually sufficient, although much larger quantities have been used with no serious results. It

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is best given shortly before bed-time for its absorption is slow. When taken for a time it is said also to lessen the profuse expectoration so often present.

Pathology of Serous Inflammations.—By the injection of turpentine and iodine into the pleural and peritoneal cavities of animals, R. Heinz (*Münch. med. Woch.*, Feb. 18, 1900) has been able to study the minute changes caused by these irritants. With turpentine the membranes appeared covered with numerous sharply circumscribed vescicles consisting of aggregations of leucocytes, which in the center of the mass had undergone necrosis. In the immediate vicinity of these heaps the serosa was degenerated and the underlying external muscular coat of the gut also participated in this change. Owing to the fact that connective tissue cells were intermingled with the white cells, it was safe to infer that the exudation took place into and not upon the superficial layers of the tissue. With iodine a rich deposit of fibrin occurred and the author, being mindful of the disputed origin of this substance, followed the pathological changes from their earliest appearance in the hopes of obtaining direct evidence of fibrinous cell-degeneration. Microscopically the exuded matter was found to be made up of a network of fine fibrillæ, but no tissue cells were present. In other sections, opaque spots were seen studded through the field, which proved to be normal desquamated elements from the superficial layers of the serosa. Furthermore, the layer of endothelium was not infrequently seen to pass under the fibrin placques, which, of course, demonstrated that the latter were exudations from the capillaries and no direct proof of the cell origin of the fibrin could thus be obtained. In the later stage, the endothelium took on marked proliferative action with the formation of numerous villous processes covered by embryonal cells, the subjacent lung tissue shared in this process and a cross section here gave a picture not unlike that of acinous glands. In the peritoneum the injection of iodine was followed by agglutination between the coils of intestine. Preceding this, however, there always was a falling-off of the endothelial cells, which normally prevent adhesion between adjacent tissues.

Ureteral Calculus.—H. A. Kelly (*Jour. Am. Med. Assoc.*, March 3, 1900) reports a case of ureteral calculus in the diagnosis and treatment of which several new features were introduced. The patient had an attack of renal colic after unusual exertion. There was no abdominal tenderness, but vaginal palpation revealed a hard oblong body in the left ureter. This was exquisitely tender and was situated half-way between the internal urethral orifice and the cervix. Cocaine was injected into the tissues about this mass, through the vaginal wall. The cystoscope revealed an abdominal left ureteral orifice, with everted, reddened mucous membrane. A ureteral sound failed to elicit a click. The orifice was determined to be strictured, so a dilator was introduced and the orifice stretched. After the ureteral sound failed to detect a stone, the end of an ordinary renal catheter was dipped into a mixture of melted wax and olive oil, which forms a perfectly smooth bulb on the catheter tip. This was introduced into the ureter without touching anything, and pushed up to the kidney. When it was withdrawn, the wax showed a series of parallel scratches from end to end, which could have been caused only by a stone. A slight fragment of stone also adhered to the wax. Since the ureter above the stone was dilated it was found impossible to grasp the stone, so the ureteral orifice was again carefully stretched and the patient placed in bed. Inside of twelve hours the stone came out with difficulty. The use of cocaine in this region opens up an interesting field. The ureter could be opened through the vagina, for the removal of a stone. The wax-tipped bougie demonstrated the presence of stone after the sound had failed, and if the catheter were waxed at intervals from the tip down one could quickly determine the precise location of the stone.

Cinnamic Acid in Consumption.—The stir caused in medical circles within recent years by the reports of undoubted cures of tuberculosis by the use of cinnamic acid injections has led F. Fränkel (*Deutsch. Arch. f. klin. Med.*, Bd. 65, Hft. 5 and 6) to thoroughly review the subject and to add some experience of his own, which on the whole, however, are not encouraging. Severe cases showed but a transient relief and soon a return of the old symptoms with increased force. Of more favorable subjects, twelve received systematic intravenous injections for seven weeks, with the result that 3 died during this time, 1 became worse, 3 showed no change and 5 experienced some relief, but of these only one to a marked degree. Hemoptysis was frequently brought on by the injections. Laryngeal phthisis gave still greater disappointment, as did also lupus, which did not seem to react at all except when the acid was directly injected into the nodules; this, however, might have been due to the alcohol used as a solvent. By inoculating rabbits with tubercle bacilli and then at once resorting to long-continued injections of cinnamic acid, absolutely no immunizing powers could be detected.

Benzoic Acid and Urine.—The effect of benzoic acid in restoring the normal acidity of urine is well known. Having noticed in a number of cases that benzoic acid seemed to have little or no influence in increasing the acidity of urine already normally acid, William W. Ashhurst (*Phil. Med. Jour.*, Feb. 24, 1900) experimented as follows upon two dogs. The urine of the dogs was first tested for some days to ascertain the average normal acidity, the tests being made of each portion as it was passed, and of the whole twenty-four-hour quantity at the end of that time. The method of determining the degree of acidity was to take 1 c.c. of urine mixed with 10 c.c. of water and 1 c.c. of a one per cent. alcoholic so-

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lution of phenolphthalein, and to allow a one per cent. solution of potassium hydrate to slowly run in from a burette, noting the quantity of the latter required to produce a distinct pink tinge. Later each day was given daily one gram of sodium benzoate hypodermatically for a number of days and similar tests made, and still later two grams were given daily. The writer presents the results of twenty-two tests made under these three different conditions. He also noted for a number of days the quantity, the specific gravity, and the acidity of his own urine. Then he took six grams of sodium benzoate daily for a number of days and noted the same points, and found by comparing the averages that while taking the sodium benzoate the specific gravity was scarcely changed, the quantity of urine was somewhat increased and the acidity slightly diminished. These results corresponded with those obtained from the examination of the dog's urine. He also found that the administration of sodium benzoate had a most marked and positive influence in indefinitely postponing the occurrence of the alkaline fermentation. This explains the well-known effect of benzoic acid on ammoniacal cystitis. It is not that acidity is increased, but that ammoniacal fermentation is prevented from taking place in the residual urine. Judging from the well known beneficial effect of benzoic acid in cases of cystitis where there is no residual urine and no ammoniacal fermentation taking place, it would seem that this acid has a distinct germicidal or antiseptic action. In a specimen in which the presence of bacteria was noted, they were notably less while the benzoate was being given. Ashhurst sums up the effect of benzoic acid upon the urine thus: There is (1) an inconstant diuretic action, accompanied by a slight diminution of the acidity of the urine; (2) a retardation or absolute prevention of the occurrence of alkaline fermentation; (3) an action in nature germicidal or inhibitory, to the growth of certain micro-organisms either within the bladder or when introduced into the urine after voiding, these susceptible organisms including especially those which tend to produce the alkaline fermentation, but which develop in the urine while it is still acid.

Ligation of Hemorrhoids.—J. B. Bacon (*Jour. Am. Med. Assoc.*, March 3, 1900) believes success in the operative treatment of hemorrhoids depends so much on careful attention to detail that he publishes his technic. At night, pil. hydrarg., gr. vi, is given. Next morning on an empty stomach, a Seidlitz powder is given and repeated every half hour until the movements are free from fecal matter. Until the second day thereafter the patient is kept on a liquid diet and strychnine, gr. $^1/_{30}$, every six hours, and the operation is then performed. With acutely inflamed piles the operation is done as soon as the bowel is empty. The patient and the operator's hands and instruments must be thoroughly clean. For ligatures, fine silk is to be preferred, since coarse silk can not be tied tight enough to cut through the pedicle in three or four days, and is apt to leave a bleeding-point when it is finally carried away. One should remove the redundant skin-tags opposite the internal piles. In most cases the anastomotic veins, between the internal and external groups of veins, are varicosed, and must be dissected out and ligated. This insures the patient against a recurrence. After the piles are removed the operative field is well irrigated, a half-inch rubber tube, wound with sterile gauze, smeared with vaseline, to an inch diameter, inserted with the aid of a bivalve rectal speculum three inches (*i.e.*, above the circular fibers of levator ani) and a dressing firmly fastened on. This tube is left four days when a Seidlitz powder is given before breakfast, and repeated in one-half hour. As soon as the bowel feels like moving a two-quart enema is injected through the tube which is then plugged. The tube and gauze will be passed with the movement, with little disturbance of the wound area. The wound is washed daily with 1-2000 corrosive sublimate solution, after the bowels have been moved by enema. For ten days the patient must use a bed-pan, since a movement in the sitting posture invariably tears the wound area open. The occasional incidence of post-operative hemorrhage necessitates a careful watch for the constitutional signs of bleeding, since the blood collects in the rectum. One should take special notice after each movement, since hemorrhage usually results from a ligature being prematurely torn off.

Gastrostomy.—J. Braquehaye has written a monograph on gastrostomy (Paris, Ballière et fils, 1900) in which he enumerates twenty-five different methods establishing a gastric fistula. He especially advocates that of Fontan, which is essentially as follows: The abdominal wall is incised and the stomach seized with a pair of forceps as near the lesser curvature as possible. A portion of it is drawn out of the wound in the form of a little cone. The base of this cone is stitched to the abdominal wall (visceral to parietal peritoneum), and the point of the cone is pushed into the gastric cavity. The wound in the abdominal wall, and the folds in the stomach at the base of the cone, may be narrowed by stitches, after the point of the cone has been punctured with a fine scalpel and a soft rubber catheter, No. 24 F., introduced.

Iodophile Leucocytes.—Following the researches of Czerny, in 1893, and of Kaminer and others since, F. Hofbauer (*Centralb. f. Innere Med.*, Feb. 10, 1900) reports extensive studies of these leucocytes in diseases of the blood. He used an air-dried blood spread and exposed it for one minute to a mixture of iodine one part, potassium iodide three parts, water one hundred parts, and acacia to give a syrup consistency. The findings so far indicate that in pneumonia, primary pernicious anemia, and well-marked leukemia, and sometimes in pernicious anemia secondary to severe disease, some or all of the leucocytes contain a substance which stains red with iodine. Apart

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from these conditions a distinct iodine reaction, even in only a few of the leucocytes, indicates that an active process of suppuration is going on. The staining substance may be in the form of irregular granules, or be diffused throughout the cell-body.

Heroin.—As a respiratory sedative, R. L. Daly (*Boston Med. Surg. Jour.*, Feb. 22, 1900) finds that heroin has the following advantages over morphine: (1) It prolongs respiration, and at the same time increases the volume of each respiration, making it a remedy much to be desired in the treatment of cough; (2) it is not a hypnotic; (3) absence of danger of acquiring the habit; (4) it does not weaken the respiratory apparatus; (5) it does not cause unpleasant disturbance of the stomach or intestines; (6) it can be prescribed in cases in which heart complications occur; (7) the ratio of the therapeutic dose to the toxic dose is considerably smaller than that of morphine. He cites in detail seven cases of pulmonary tuberculosis and one of tubercular laryngitis taken at random from over one hundred cases in which he has administered the drug, illustrating its prompt and beneficial action on the cough, respiration, and secretion. In all these cases, after other drugs had been tried without success, in about three days after the administration of heroin, in half-grain doses three times a day and once at night, was begun, the cough became loose and less frequent, expectoration became free, and there was less dyspnea. At the end of a week there was no dyspnea, the cough had diminished to a marked extent or had disappeared, and all pain was absent. From the beginning of the administration of heroin the respirations, carefully noted in nineteen cases, were decreased in number from two to seven per minute. In certain cases when the drug was stopped for a week the respirations again became more rapid. The effect of the drug upon night-sweats was also marked. In one case almost everything had been given to diminish the night-sweats, but without avail. Then heroin, gr. ½ t.i.d. and at night, was administered in addition to atropine sulph. gr. $^1/_{60}$, at night and on the third night of its administration the sweats decreased to a great extent, and on the fourth ceased altogether. Atropine sulph. had been given with mist. codeine for some nights in this case without result before the heroin took the place of the mist. codeine. In the case of tubercular laryngitis, heroin, gr. $^1/_{12}$ every three hours, kept the throat in a condition of anesthesia and relieved the sore throat and the pain very considerably.

Prognosis in Appendicitis.—After considering the pathology of appendix lesions, H. A. Coley (*Lancet*, Feb. 10, 1900) proceeds to the question of prognosis, which depends on the virulence of the infective agent, and on the nature and extent of the process in the appendix itself, and more particularly in the general peritoneal cavity. Clinically the prognosis must be arrived at by balancing the data derived from the local symptoms, local signs, general symptoms and the progress of the case. Of the local symptoms pain is the most constant, the distribution, character and severity of which are of much significance. The initial pain is usually in all cases referred to the umbilical region or the general abdominal cavity. In mild cases it soon localizes itself in the right iliac fossa: In perforative cases it is more sudden, more severe, and more persistently generalized. Pain associated with definite collapse assumes maximum importance since it indicates perforation, or rupture of an abscess wall. An interval of quiescence following an acute onset of pain must not mislead. In some cases there is a dull aching pain or slight colicky pains for a day or two, and then a paroxysm of acute pain with vomiting and febrile disturbance, the later pains being due to peri-appendicular inflammation. Sudden increase of pain in any case calls for most careful consideration and often indicates operation. Persistence of severe general pain is usually evidence of a grave lesion, since in mild cases it soon becomes localized and less intense. Persistent severe pain localized to the appendix is especially apt to accompany concretion. Pain much increased by respiration indicates peritonitis. While the kind, onset, severity, and persistence of pain are important indicators, yet it must be distinctly remembered that there may be a very severe lesion of the appendix, especially gangrene, with little or no pain. Vomiting may accompany, precede or follow the pain, but is usually an initial symptom. Frequent, severe, and especially persistent or recurrent vomiting indicates a serious lesion. Absence of vomiting proves nothing. Natural action of the bowels is favorable. Persistent hiccough is unfavorable. Among the general symptoms are two useful guides, the temperature, respiration and pulse considered conjointly, and the general aspect of the patient. Temperature alone is misleading. In at least four appendical conditions it may be normal or subnormal, *viz.*, collapse after perforation or gangrene; general septic peritonitis; strictly circumscribed abscess, and mild appendicitis without peritonitis. High fever continued for the first few days usually means a severe infection. A fall of temperature, if accompanied by general improvement, is reassuring, but not otherwise. A secondary rise of temperature means spreading infection. Fever persisting after eight or ten days means local abscess, and becomes intermittent or remittent. The pulse is of more prognostic value, but one must be careful to consider its relative, rather than absolute, frequency, and its temporary character rather than any temporary alteration. High pulse means a severe infection, very often wide peritoneal infection, especially if pulse-rate and temperature are disproportionate. A pulse-rate above 120 leads one to expect local suppuration or general peritonitis. Rapid, shallow respirations indicate peritonitis. Of local signs, immobility is constant, at first localized to the right side. If it becomes general it means

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general peritonitis and the prognosis is correspondingly grave. Distention may or may not be present, but when marked is of grave omen. The area of tenderness gives an idea of the extent of peritoneal inflammation. Persistent or increasing local tenderness may be almost the only sign of localized suppuration. Tumor or deep-seated resistance is very common but is often not discernible, so that it is of limited prognostic significance. On the whole, the presence of a tumor is reassuring as it indicates a localization of the process. The course of the disease during the first twenty-four hours furnishes important data as to prognosis based on the above observations. One must always be on his guard against a treacherous remission of symptoms. As to recurrence, various observers estimate from 30 to 50 per cent. of recurrences in cases not operated on. Recurrence usually appears within the first year. A mild first attack is often followed by recurrence. If convalescence is slow, with persistent local pain, tenderness, or swelling, the probability of recurrence is great. If, in the interval, there is occasional pain, irregularity of the bowels, local tenderness or rigidity, chronic appendicitis probably exists.

Genito-Urinary Diseases.—After briefly reviewing the different means employed in different cities of the world to control or suppress prostitution, Ferd. C. Valentine (*Jour. Am. Med. Assoc.*, March 3, 1900) gives as his opinion that it is impossible for the State to regulate prostitution. If the State cannot regulate prostitution, can it suppress genito-urinary diseases? It is shown that even regular examinations of public prostitutes do not prevent them from becoming infected with gonorrhea and inoculating those with whom they have connection during the time from one examination to the next. But statistics seem to show that more men are infected from so-called "respectable women," *i.e.*, clandestine prostitutes, than from public prostitutes. There is, therefore, a source of infection which can be controlled in no way by the State. Inasmuch as illegitimate relations between the sexes cannot be prevented, and regular examination of public prostitutes does not necessarily prevent infection, while clandestine harlots cannot even be examined regularly, Valentine thinks that education as to the dangers of gonorrheal infection, and its sequelæ, must be the means used against the invasion of the disease. He has found in men, otherwise highly educated, a most complete and criminal ignorance of even crude outlines of genito-urinary physiology, and to this ignorance they owed their sufferings. If a man knows that the gonococcus may invade all parts of his organism, that he may lose his life from gonorrhea, that he may become hopelessly blind in consequence, that he may become a mental and physical wreck, and that the disease may, through him, cause the death and disabling of others, perhaps innocent ones, he will not neglect himself when he becomes infected, but will seek a reputable physician, that the disease may be cured as quickly as possible, thus striving to prevent its invasion into deeper and more remote organs. The writer makes the following suggestions: (1) Sufficient of the physiology and pathology of the genito-urinary apparatus should be taught in institutions for higher education, to convey to students the dangers of genito-urinary diseases to themselves and to others; (2) similar instruction should be given in schools attended by boys at the age of puberty; (3) no man who has ever had gonorrhea should be allowed to marry until it is proved by a physician that he cannot infect his wife; (4) regular physicians should be elected, by their societies, to deliver evening lectures to the public on genito-urinary diseases; (5) every father should be taught to warn his sons of the dangers of genito-urinary diseases; if the father is unable to do so, the family physician should do it; (6) every medical society should elect its most competent member to write at least one article on the subject, worded for laymen's comprehension, and to be published under the auspices of the society.

Pelvic Inflammations.—In cases of metritis and salpingitis Labadie Lagrave (*Jour. de Méd. de Paris*, Feb. 11, 1900) cleanses the vagina with 1 to 2000 mercuric chloride solution, inserts a laminaria tent, and packs the vagina with iodoform gauze. After twenty-four hours a larger tent may be inserted, and when the cervix is well dilated an intra-uterine douche is given, and the uterus packed with iodoform gauze soaked in creosote-glycerin (1 to 3). In carrying out these procedures the cervix should not be drawn down, as traction on the peri-uterine structures may provoke an extension of the existing pelvic inflammation. The packing is to be renewed every four days for two or three weeks. If the uterine mucous membrane is rough with hypertrophied papillæ and villosities, the above treatment should be preceded by curettage, care being taken to curette about the mouths of the Fallopian tubes so that these may drain freely into the uterus. Metritis, lymphangitis, and even salpingitis are often thus cured without resort to operation; and even if the uterine orifice of the tube is obliterated, the salpingitis, although not cured, will be benefited by the reduction of the general inflammation. The author advises against laparotomy except in cases of very large pus-tube.

Dublin Fever.—This is the name given to a form of influenza by H. FitzGibbon (*Dublin Jour. Med. Science*, Feb., 1900). He divides influenza into three classes: (1) Simple influenza, the ordinary mild form; (2) pulmonary influenza, a severer form, complicated by bronchitis or bronchopneumonia, and (3) enteric influenza. This third form begins with chilliness, languor, pains in the back and limbs, and a dull frontal headache. This is followed in a few hours by an intense febrile disturbance, 104° to 106° F., with its usual accompanying symptoms, which persist twenty-four to forty-eight hours and subside rapidly. The temperature may fall below normal.

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The condition of the patient, however, does not improve with the fall of the temperature, but the distressing symptoms persist and there is a condition of great nervous prostration, with insomnia and mental disturbance, similar to the neurasthenia of chronic alcoholism. With this nervous prostration there sets in a train of gastro-enteric symptoms, difficult to distinguish from those of typhoid fever, but without the characteristic temperature and diarrhea of that disease. This continues for an uncertain period, depending upon the resistive power of the patient. FitzGibbon was impressed by the similarity of severe cases of this class of so-called influenza to Chagres fever. Chagres fever is a malarial fever occurring on the coast of the Caribbean Sea and is due to malarial infection emanating from vegetable matter in the swamps along the coast. The close resemblance of this form of influenza to Chagres fever led the writer to look for a similar source of infection in Dublin. He found numerous places in the city where there were accumulations of decaying vegetable matter, ashpit refuse, and filth, whose abominable vapors were blown over the city. Most important is the fact that he found many houses built, or being built, upon sites filled in with ashpit refuse and other rubbish containing vegetable matter and filth. He thinks that the vapors arising from such building-ground and from the refuse depots and other collections of decaying vegetable matter and filth in the city are the cause of the high death-rate and of the malarial type of enteric influenza, which may as justly be called Dublin fever, as the fevers of Chagres, Malta, or Gibraltar derive their names from the places whose insanitary conditions produce them.

Colostomy by Strangulation.—M. Gangolphe (*Rev. de Chir.*, Feb., 1900) describes a method of iliac colostomy by ligature and strangulation which he has performed sixteen times with satisfaction to himself and his patients. The opening in the abdominal wall is made small to prevent prolapse and hernia. The gut is drawn out of the wound and stitched to the parietal peritoneum, in such a manner that three or four inches of it protrude. Through its meson, close to the level of the skin, two interlocking stout ligatures are passed and tied around the afferent and efferent limbs of the loop of bowel. They are tied as tight as possible, the object being to strangulate the gut. In this they succeed in some forty-eight hours, the patient meanwhile having suffered colicky pains of slight character. The gangrenous distended loop of bowel is then opened with a thermocautery, and the constricting ligatures, having fulfilled their mission are cut and slipped off. The appearance of the wound at this stage is said to be somewhat alarming, but the writer says that it may be safely left to the restorative power of nature. In time the sloughs come away and a double-barrelled anus is left, the upper afferent end, having usually the larger caliber, although not always so. There is no tendency to prolapse, and as the septum between the openings is well marked the passage of fecal matter from the afferent into the efferent portion of the gut does not take place. Sixteen patients were operated on and all recovered. There was generally some fever but the severer symptoms of infection were wanting.

Vomiting of Pregnancy.—Cases of obstinate vomiting in the female are often due to pregnancy, being caused by reflex irritation from the uterus. If as many as two monthly periods have been missed, this, according to G. Davenport (*Obstetrics*, Feb., 1900) should always be thought of, for if not promptly and effectively treated it may result fatally. The treatment for a gastritis will be of no avail, for the vomiting is purely reflex, and there are no lesions either in the stomach or the liver. If ordinary means are of no avail for ten days or two weeks, the uterus should be emptied, and if this procedure has not been too long delayed it is always successful in stopping the vomiting.

Another Eye Accommodation.—Although the eye is such an important organ and so necessary to one's well-being, it is astonishing how often it is almost maliciously misused either by not wearing any glasses at all or by using those which do not correct the refractive errors. N. B. Jenkins (*N. Y. Med. Jour.*, March 3, 1900) draws attention to the power which the eye has of adapting itself to badly fitting glasses and calls this "another accommodation" of the eye. He cites many cases in which glasses were worn, some of them giving partial relief, but which were far from being able to correct the refractive errors. To select a pair of glasses that can be worn is a simple matter, but to properly correct complicated cases for long-continued reading will always be beyond the bungler and the quack.

Hemorrhage after Amygdalotomy.—One of the most difficult of primary hemorrhages to control, and one which is liable to occur in the experience of any general practitioner, is the hemorrhage which sometimes follows the simple abscission of an hypertrophied tonsil. G. B. Hope (*N. Y. Med. Jour.*, March 3, 1900) reports the case of a strong, healthy woman in whom it was evident that a small artery was cut during the operation which was performed under chloroform. The hemorrhage was severe and greatly aggravated by the uncontrollable excitement of the patient and the attacks of coughing necessitated by the presence of blood in her larynx. In these cases, ligation, compression or torsion is practically impossible. The familiar hemostatics, such as cold, cocaine, and antipyrine were ineffective and it was only after the persistent use of the galvanocautery that a fortunate arrest of the hemorrhage occurred. The patient had already lost large quantities of blood and it is probable that this exsanguinated condition had a beneficial effect. The treatment which is advised consists of the use of the galvanocautery, the hypodermic use of ergot, the maintenance of an erect position, and the avoidance of stimulants.

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SATURDAY, MARCH 10, 1900.

THE MILK SUPPLY OF LARGE CITIES.

AN abundance of pure water is recognized as the first essential provision in securing the healthfulness of a city, and undoubtedly second in importance is a plentiful supply of good milk. The recent interesting discussion of this subject before the New York County Medical Society (see p. 394) brings out clearly the fact that our American cities are being supplied with milk that is constantly improving in quality. Only a little persistence in demanding good milk is now needed to maintain the standard that during recent years has been attained. As in all economic questions the demand creates the supply.

No after-treatment of milk by centrifugal cleaning, nor even Pasteurization, ever succeeds in making carelessly collected milk as wholesome for general consumption, and especially for invalids and children, as the originally uncontaminated product. It is this branch of reform in the milk industry that needs encouragement. The farmer must be taught the precautions necessary to protect his milk as far as possible from any and all contamination and then must be paid enough for his additional labor and expense to warrant his expenditure. The increased sale of such milk will soon abolish the necessity for any increase of price to the consumer. The improvements that have come in the milk supply have been mainly due to such advice obtained and put in practice through private enterprise.

The arraignment of the present state of affairs in New York City with regard to the absolute prohibition of the sale of skim-milk seems to be completely justified. The sale of skim-milk, like most other good things, is liable to great abuses. It needs most careful regulation. Prohibition, however, is too radical. Skim-milk is an extremely valuable article of food; moreover, it can be obtained for a very low price. To deprive the poor of all opportunity to purchase it because, forsooth, its sale is open to abuse is almost criminally absurd. A medical advisory board would surely put an end to the cruel waste of valuable nutritious material which the present prohibitive regulations involve. The poor of the city can be greatly benefited by being given an opportunity to purchase skimmed milk, when sold as such, at a price proportionate to its value. It has been found perfectly feasible to do this in other cities and it may surely be accomplished quite as well here in New York.

THE LICENSING OF MIDWIVES.

IN view of the fact that a bill is now before the New York State Legislature registering midwives in New York City, it is interesting to know what the medical men of Great Britain think regarding the desirability for such a measure for themselves.

A bill is now before the House of Commons for the regulation of the practice of midwives. In order to learn the exact opinion of the members of the profession upon the desirability of this proposed legislation, the *Lancet* sent out about 20,000 circulars to them, asking an answer to three questions: (1) Are you in favor of legislation for the regulation of the practice of midwives? (2) Are you in favor of the bill now before the House of Commons? (3) Are you indifferent in the matter? Answers have been received from about one-third (6299) of the parties addressed. Of these 1817 consider no legislation necessary; 1323 are opposed to the present bill, although desiring legislation along these lines; 1311 favor legislation on this subject and support the present bill and 596 frankly express themselves as indifferent to the whole matter. The balance were more or less indifferent. The *Lancet*

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considers that the opinions thus obtained are fairly representative of the medical sentiment regarding the matter. On this basis it will be seen that only about one-fourth of the profession are in favor of the bill, and fully one-third are absolutely opposed to it.

Regarding the regulation of the practice of midwives in New York City there should be no two opinions. Midwives flourish here in large numbers; by proper regulation, under legal enactments, they can be made to meet an absolute demand that is difficult to satisfy in any other way. As long as a midwife has fitted herself by proper instruction and training to fulfil the functions of that office, all principles of individual liberty on the part of the patient, and every right to earn an honest living on the part of the midwife, justify the existence of the latter. Under a proper system of regulation and wise legislation midwives may become an important and desirable factor in any tenement-house community.

A SCHOOL OF HYGIENIC AND SANITARY SCIENCE.

AN interesting feature connected with medical education is to be found in a recent announcement by the Cornell Medical School of the establishment in New York City of a School of Hygiene and Sanitary Science. Referring to the circular of information just issued it appears that the aim of the department is to teach not undergraduates only, but is specially planned to meet the needs of health officers throughout the cities, towns and villages of the country.

Granting that the ordinary physicians understand in a general way such matters as pertain to the health of large collections of people, as a matter of fact the endless details which have arisen from the increase of population and the crowding in great centers have far outstripped the knowledge of the average health officer, and too often this knowledge is acquired by him only after the sacrifice of life and at great public expense. In the primitive community it was a simple enough matter to protect the water supply, to see that the drains emptied below the reservoir, and that the public school had room enough for the pupils who attended it; but with the changes which have taken place in the last decade vastly more complex questions have arisen. The sanitary officer must be able to tell pure from impure water, to trace the source of contamination when it occurs and be able to propose a scheme by which the water can be made safe.

In great cities the impurities in the air are a matter of very serious consideration, also the derivation of these impurities and how to avoid them. The importance of this matter is shown by the reports of the New York Board of Health in following the work of the Street Cleaning Department under the late Colonel Waring, when the death-rate fell about 20 per cent. simply by removing the dirt from the streets and so protecting the atmosphere from contamination. Tenements, hotels, clubs, prisons and all other buildings in which human beings are forced to congregate, are gradually coming under the intelligent supervision of the health officer. The matter of superintending the food supply of great centers of population is another duty which devolves upon the health officer, and it is of the first importance that he should be instructed in the methods of testing the various foodstuffs, such as vegetables, meats, and milk.

Some infectious diseases are exceedingly rare and many men who live in healthy communities have never seen them in their most contagious forms, and, hence, without a knowledge of them great dangers may be thrust upon an unsuspecting public. In a large city like New York, almost every known disease can be seen at one time or another and a thorough knowledge obtained of its clinical aspect and how to verify its diagnosis. It is a self-evident fact that a mistake, even on the conservative side, may become a very serious matter in alarming a whole community and it is exceedingly important that such errors should not be made. In New York, with its endless opportunities for practical research, familiarity with contagious diseases can be acquired in a comparatively short time.

Thousands of men throughout the country who are serving in the capacity of health officers will doubtless welcome this opportunity of obtaining, in a few weeks, systematic instruction in all the manifold duties that devolve upon the official guardians of the public health. The practical way of applying the latest and most approved methods of disinfection, the detection of adulteration in food, and the testing of house-plumbing must be seen and studied, by the actual or prospective health officer, to be serviceable to him. When we consider that there are in New York State alone, seventeen thousand so-called sanitarians, the great majority of whom have had no systematic laboratory, didactic or practical instruction to fit them for their vocation, the importance to the profession and to the public of

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the opportunities now afforded by Cornell Medical School cannot be overestimated. Two courses will be given annually, the fall term beginning in October and continuing six weeks and the spring term beginning on the third Tuesday in May and continuing through a similar period.

ECHOES AND NEWS.

NEW YORK.

Rabies Spreading.—The New York State Health Board has instructed Dr. Thomas A. Killip, State Sanitary Physician, to visit Buffalo and all towns in western New York and report as to the epidemic of rabies which prevails in that region. This epidemic appears to be steadily creeping eastward.

Bequests to Hospitals.—By the will of Cecelia Julia Loux, the Isabelle Heimath Hospital, German Hospital, St. Francis' Hospital, St. Joseph's Hospital and the German Society each received a bequest of $3,000; Roosevelt Hospital and the New York Institution for the Blind each received $2,000 as bequests.

The City's Outdoor Poor.—The physicians for the city's outdoor poor examined 94,480 adults during 1899; 4,317 were sent to the Almshouse and 517 to the Colored Home, 862 children were sent to the Nursery and Child's Hospital and 907 to the Infants' Hospital. The sum of $67,403.71 was secured for abandoned families and for illegitimate children.

Contagious Diseases.—For the week ending March 3, 1900: Measles, 818 cases and 33 deaths; diphtheria, 262 cases and 54 deaths; laryngeal diphtheria (croup), 21 cases and 13 deaths; scarlet fever, 160 cases and 23 deaths; chicken pox, 17 cases; tuberculosis, 193 cases and 171 deaths; typhoid fever, 7 cases and 3 deaths; cerebrospinal meningitis, 7 deaths; totals, 1478 cases and 304 deaths.

Mastoiditis Prevalent.—The Manhattan Eye and Ear Hospital and the New York Eye and Ear Infirmary have had more cases of mastoiditis during the past few weeks than they have had in years before. The disease appears to prevail most in the lower part of the city and on the East Side. There were thirty-two cases at the New York Infirmary in one day. Practically all cases have required operation. In many cases grip does not appear to be a concomitant affection.

A New Hospital.—The Board of Managers of the French Benevolent Society has decided to erect a new hospital. This building and the site will cost $400,000, half of which sum has already been subscribed. The capacity of the new building will be 150 beds and 25 private rooms. This hospital is nonsectarian and makes no distinction as to nationality. The only assistance which the Society has received outside of individual subscriptions is the share allotted by the Saturday and Sunday Association. It receives no aid from the city.

The Babies' Hospital.—In the eleventh annual report of the Babies' Hospital, to October 1, 1899, the number of patients is stated to have been 394, as against 371 in 1898, and 10,165 days' treatment were furnished against 9646 for the previous year. The death-rate was lower than in 1898, over 45 per cent. of the 114 deaths being those of infants under three months of age. The summer branch of the Hospital, at Oceanic, N. J., had a prosperous season. The year's receipts were $18,494.04. There was a balance of $1322.45 on October 1, 1899.

The Gerry Society Bill.—The hot contest being waged before the Judiciary Committee of the Legislature, regarding the bill providing that the Society for the Prevention of Cruelty to Children shall no longer be exempt from State inspection, still progresses without abatement. The Governor has finally committed himself in favor of the bill, saying: "We provide for the inspection of banks and of insurance companies and surely it is as important to protect the interests of inmates of charitable institutions as it is to protect stockholders and depositors."

Garbage Disposal.—The bill before the Legislature abolishing the use of the garbage-reduction plant on Barren Island is meeting with vigorous opposition from members of the Street Cleaning Department. Street Cleaning Commissioner Nagle says that the proposed new plan would necessitate the erection in the city limits of not less than ten cremation furnaces of large capacity, of which four at least would be situated on the Island of Manhattan. It is estimated that the change from the present system of disposing of garbage would involve an outlay of over $2,600,000.

State Medical Association.—A bill was introduced in the Assembly at Albany, on February 28th, to charter the New York State Medical Association for the purpose of cultivating and advancing the science of medicine, the promotion of public health, the establishment of a death-fund for the dependents of its members, and for assisting in the work of enforcing the general medical laws of the State. The Association is authorized to hold real estate to an amount not exceeding $100,000. The governing body is to be known as a council, which will make laws for the proper government of the Association and of its branches and subordinate county associations.

Unusual Deaths.—Lawrence Akins of New Rochelle was well until March 1st, when he scratched his left thumb on a rusty nail. Soon afterward his arm began to swell and his physicians wished to amputate. He refused to have this done and died within three days from the time he received the scratch. He was 38 years old.—John Groh died on February 27th, while undergoing an operation at the Polyclinic Hos-

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pital, in East Thirty-fourth street. Mr. Groh disobeyed his physician's direction to rest quietly home on the night of February 26th. Instead he went out and took stimulants freely. The operation was on the posterior nares. Cocaine was used at first, but later nitrous oxide was administered. The patient suddenly collapsed and could not be restored.

Filing of Vital Statistics.—Most of the regular practitioners and midwives of Rochester, N. Y., are plaintiffs in actions brought against the city to secure pay for registering vital statistics with the Board of Health. These bills have not been paid because it has been held by the city authorities that such payments should be made by others. A test case has already gone to the Appellate Division and has been decided in favor of the physicians. Many similar suits are pending. The constitutionality of the law governing the registration of these statistics at municipal expense is involved in these cases, and the law applies to every city in the State. The decision of the Appellate Division in the test case above noted was a unanimous affirmation of that of the lower court, and directed that the city pay the cost of the proceedings.

Obituary.—Dr. Clarence E. Beebe died on February 28th. He was fifty-one years old. He was graduated from Yale in 1871 and from the New York University Medical School in 1873. He was a member of the New York County Medical Association and of various other societies.—Dr. Christopher Prince died on March 4th, at his home in Irvington-on-Hudson. He was born in Brooklyn, in 1823. Dr. Prince studied medicine under Dr. Willard Parker and was graduated from the College of Physicians and Surgeons in his twenty-second year. He built up a very extensive practice in New York. In 1872 he was appointed police surgeon, which place he resigned to accept the surgeonship of the Fire Department. He was an active member of the Academy of Medicine, of the County Medical Society and of the Pathological Society, and was for some years chairman of the Obstetrical Section of the Academy.

PHILADELPHIA.

Health Report.—Deaths in the city for the week ending March 3rd were 596, an increase over the previous week of 151 and an increase of 30 as compared with the corresponding week of last year. Contagious diseases: Diphtheria, 106 cases, 30 deaths; scarlet fever, 70 cases, 3 deaths; typhoid fever, 66 cases, 9 deaths.

Magazine Changes Hands.—The *University Medical Magazine*, formerly published by a stock company, has recently come under the control of the Trustees of the University of Pennsylvania. Dr. C. H. Frazier has been chosen editor and the magazine will in the future be issued as the official organ of the medical department.

Pay Hospital for Contagious Diseases.—The movement toward the establishing of this hospital is assuming definite shape, the site having been selected and the erection of two pavilions, one each for diphtheria and scarlet-fever patients, will be begun shortly. Patients in the hospital will be allowed to retain the services of their own physician.

Instruction in Nursing.—A ten weeks' course for training nurses has been instituted by the Philadelphia Nurse Supply and Medical Dispensary. The purpose is to train women of all classes in the elements of nursing and to instruct young women in the practical details. Prominent society women are interested in the project. The course consists of forty evening lectures, practical demonstrations by trained nurses from the various hospitals, and actual nursing among the sick poor.

Improved Urine Separator.—At the meeting of the County Medical Society, February 28th, Dr. A. J. Downes demonstrated an instrument for "siphonage of the partitional bladder." The Harris urine separator, although giving good results in many instances, causes distress to the patient, allows a possible admixture of urines, and has a caliber larger than is needed. The instrument devised by Dr. Downes consists of two parts, a double catheter No. 13 American scale, and a partition rod. This rod has a particular shape for each sex and is longer than in the Harris instrument, the aim being to partition the whole bottom of the bladder. Separation of the urine is proven in every case.

Examination Fraud.—The report of the State Medical Board has at last been made public. The leakage of questions was traced to the State Printer's office, but efforts to discover in what manner the questions were secured have failed. Dr. D. B. Hoeh of Indiana County confessed that he supplied candidiates with questions at the June examination of 1899, but stated his inability to reveal the source, as the questions came in anonymous letters. It is stated that the college records of all but two of the men who obtained the questions indicate that they could have passed the examination on their merits, and that those two have voluntarily expressed their willingness to stand a re-examination.

The report of the State Council, submitted by the Lieutenant-Governor, states that the report of the Medical Board is practically a correct one, but that the general rules for obtaining evidence were not followed in getting at the facts, and that the statements of Dr. Hoeh are not reliable.

Academy of Surgery.—At the meeting March 5th Dr. Le Conte exhibited a patient in whom he had resected the left wrist because of tubercular arthritis. The dorsal incision between the third and fourth metacarpal bones was used. This is considered the best incision as it allows the resection of the carpus as one bone.

Dr. Shoemaker reported a case of "Interstitial Hemorrhage into the Fallopian Tube simulating

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Acute Appendicitis." The patient was a woman of forty-three, married one year before. The symptoms were pain, vomiting, rigidity, and tenderness. There was no hemorrhage into the broad ligament or Douglas' cul-de-sac and no tenderness was found upon vaginal examination. Calomel was given and ice applied.. Although the pain was relieved the condition of the patient was such that operation was advised and performed thirty-two hours after the attack began. The appendix was thickened, but was not acutely inflamed. A sessile cyst was found upon the right ovary. The tube was patulous and there was no hemorrhage into the broad ligament, the rare condition of interstitial hemorrhage into the tube being present. No fetus or clot was found free in the abdomen, although ectopic gestation was suspected. The ovary and tube, also the appendix, were removed and the patient recovered.

CHICAGO.

St. Luke's Hospital.—The property of this hospital, situated on Fourteenth Street and Indiana Avenue, has been mortgaged to secure a loan of $50,000. The Directors of this institution say that the hospital has been steadily running behind because of its liberality in treating patients free of charge. The debts amount to more than $30,000.

German-American Hospital.—The officials of this hospital held their annual meeting March 1st. The reports showed that the hospital had been prosperous and that the floating debt had been wiped out. During the year 334 patients were cared for, and the income for the year amounted to $12,820.17. The expenses were $9,419.14, leaving a surplus of $3,401.03.

Statistics of Juvenile Offenders.—The collection of statistics with reference to the physical and mental condition of juvenile offenders in America, and their comparison with similar statistics compiled for the juvenile population at large, would be a valuable contribution to the sociologic information of this country. Miss Julia Lathrop, a member of the Illinois State Board of Charities, in a recent address stated that no such statistics had ever been collected in America, to her knowledge, and suggested that a useful study might be made of the condition of the boys in the Chicago Bridewell as to the points brought out in the English Industrial School investigations.

Conference of Sanitarians to Prevent the Spread of the Bubonic Plague.—Health Commissioner Reynolds has written to both Drs. Walter Wyman and George M. Sternberg suggesting the advisability of calling a national conference of sanitary officers, in April next, to consider the whole question. It is believed that a convention to discuss this one subject alone would attract universal attention and the proceedings would find the widest publicity through the daily press. The knowledge that such a convention was to be held would allay fear and the deliberations would create a sense of public security. The feeling of an impending danger that is unseen and not understood is what creates fear and panic.

Experiments in Scarlet Fever.—At a meeting of the Chicago Society of Internal Medicine, held February 27th, Dr. William K. Jaques read a paper on this subject, in which he began with the epidemics in Chicago among the poorer classes in 1897 and 1898, and which gradually spread throughout the city, lasting 1898, 1899 and 1900. He dwelt at length on the discovery of the germ of scarlatina by Dr. Wynekoop, and the announcement of the discovery of the diplococcus scarlatinæ by Dr. William J. Class. He has found the germ discovered by Dr. Class present in great numbers in the throat, in the blood, and even in the scales of scarlet fever patients. Indeed, he has found the Class diplococcus just as frequently in cases of scarlet fever as he has the Klebs-Loeffler bacillus in diphtheria.

Emergency Hospital for the Business District of Chicago.—Dr. Francis W. McNamara, in a recent article pointed out the urgent necessity for an emergency hospital located in the business district of this city for the care of emergency cases only. Chicago should erect and equip a building in its central portion, easy of access, for hospital purposes, and establish in connection an ambulance service with experienced physicians in charge who are ready at all hours to administer medical or surgical aid to the injured or sick. The remedy for this condition requires only the expenditure of a small amount of money to build a small hospital of thirty or forty beds. As the emergency cases are usually of short duration, either recovering promptly or resulting fatally in a brief time, there is no need for a larger institution.

Vital Statistics.—There were 536 deaths reported to the Chicago Health Department during the week ended February 24th. Consumption and cancer mortality were excessive, the 32 deaths from the former disease being the greatest number reported for any week in more than a year. Of the 536 deaths during the week, 105 were of children under one year of age, and 112 among those over sixty years. Deaths from pneumonia and bronchitis show a diminished number as compared with the preceding week and a marked reduction as compared with the corresponding period of 1899. Pupils to the number of 4657 were examined by the medical inspectors of schools, of which 293 were excluded because they had the evidence of contagion about them. There were 225 cases of contagious diseases reported by physicians to the Department, while 224 premises were disinfected by the Department, and 24 contagious-disease funerals were supervised. In the laboratory 132 bacteriologic examinations were made during the week; 590 tubes of vaccine lymph and 81 bottles of antitoxin were given out; 519 samples of milk and cream analyzed, of which 120 were brought to the laboratory by private individuals, and 399 were collected by the milk inspectors.

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The Physicians' Club of Chicago.—At a meeting, held February 26th, the subject of "Success in Medicine" was discussed by Drs. Frank S. Johnson, E. J. Gardiner, and William E. Quine. The latter spoke of economy of time in the practice of medicine, and said that one of the best ways to economize time is to do the work in hand instantly. He knows of no better incentive to economy of time than that which is furnished by having fixed obligations, as a college engagement, a hospital engagement, or the like, making it necessary for the physician to be at a particular place at a particluar time. The ability to economize time is largely innate. He knows physicians who will fuss and stew around and be as busy in making six or ten visits a day as others would be in making from twenty-five to thirty visits. Dr. James B. Herrick discussed the subject of proper and improper advertising. Dr. Alexander Hugh Ferguson spoke of the question of fees and commissions. No physician or surgeon should charge a fee which is a hardship to a patient. A fee of ten dollars would be a hardship to a poor man, whereas a fee of ten thousand dollars would scarcely be felt by a millionaire. He characterized the practice among some physicians and surgeons of giving commissions as damnable and disreputable. In the general discussion, Drs. John E. Owens, Harold N. Moyer, Joseph Zeisler, and James E. Stubbs concurred in the statements of Dr. Ferguson.

GENERAL.

Medical Students Quarantined.—Nine students of the Detroit College of Medicine and a helper are detained in the smallpox hospital. They all had been engaged in the dissecting-room upon the body of a man who died of what was supposed to be blood-poisoning, but which finally proved to be smallpox.

Berlin Physicians Obdurate.—The proposal to admit women as members of the Berlin Medical Society has been again brought to a vote. Those who spoke in favor of their admission cited the customs of America, Switzerland and other countries, for a generation past, but to no avail, for the men by an overwhelming majority voted "no women as members."

Diphtheria Epidemic in Ithaca.—A diphtheria epidemic has been prevalent in Ithaca, New York. It is declared that the first few cases were treated lightly by the physicians and were not reported to the Board of Health. As a result no steps were taken to arrest the epidemic until very recently. The city hospital is crowded with patients, and no more can be admitted.

Bibliography of Italian Literature.—The first number of a new bibliographical bulletin of Italian medical literature is just received. *Bollettino Bibliografico delle Pubblicazioni Mediche Italiano* is its title. It is very ingeniously arranged. Articles are classified according to subject and printed in double column in the form of small cards. Such being printed on one side of the page only may be cut out, mounted on cards and thus classified. The other side is used for advertisements. In this first contribution 191 titles are thus given.

The Hahnemann Monument.—A bill granting permission for the erection of a monument in honor of Samuel Hahnemann has passed both Houses of Congress and been signed by the President. The location has not yet been selected, but a contract has been signed for the erection of the structure at a cost of $48,000, exclusive of the foundation. Subscribtions to the amount of $75,000 will be required to complete the monument with its fitting accessories and surroundings. Money is still needed. It seems to be difficult to raise money for monuments to physicians; the Rush monument fund also is still in need of additional subscriptions.

Vaccination and School Attendance.—The Supreme Court of Indiana has recently decided that an unvaccinated child may lawfully be excluded from a public school in a locality where there was danger of a smallpox epidemic, although there is no Indiana statute making vaccination compulsory, or imposing it as a condition for the privilege of attending the public schools. It was considered that the power of the local Board of Health to establish a regulation to this effect is derived from the State Board of Health, which body is authorized by an act of the Legislature to adopt rules and by-laws to prevent outbreaks and the spread of contagious and infectious diseases.

The Queen and the Wounded.—The Queen's personal interest in the men fighting the nation's battles is being constantly shown by her visits to Netley Hospital and other institutions where lie the officers and men who have been wounded in South Africa. The best illustration of her sympathy has been shown by summoning to Osborne Bugler Dunn, aged fifteen, who was the first to cross the Tugela River in a recent advance. While running with the soldiers, holding his bugle in his right hand and sounding the advance, a bullet struck his arm and the bugle fell. The boy immediately picked it up with his left hand and repeated the call. The boy's father, a sergeant, returned to the front this week, having recovered from a wound.

Sickness and Marriage Engagements.—It was decided by the Supreme Court of Appeals of Virginia, on December 7, 1899, that "a contract to marry is coupled with the implied condition that both of the parties shall remain in the enjoyment of life and health, and, if the condition of the parties has so changed that the marriage state would endanger the life or health of either, a breach of the contract is excusable. One month before the appointed date for the marriage the defendant found himself suffering from cystitis and was warned by his physician that the malady would be aggravated by marriage. He, there-

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fore, broke the engagement, and suit was brought with the result above stated. Shortly after the Court of Appeals decided in his favor, the defendant married a woman other than the plaintiff.

For Psychical Research.—The Society for Psychical Research will shortly appeal to the public for $50,000 with which to investigate the phenomena of hallucinations, coincidences, apparitions, automatism, etc. Dr. James H. Hyslop, Professor of Logic at Columbia University, who is deeply interested in such work, considers that thorough and scientific investigation of these phenomena might result in a modification of the whole theory of insanity as it prevails at this time. If such investigation were made, a cure for certain forms of insanity might be discovered. "It would not apply," states Dr. Hyslop, to "acute mania, or melancholia, or to epileptic insanity, but it might apply to some forms of mental insanity which are based upon hallucinations. Many persons are put in asylums who in reality are sane and merely have psychical peculiarities."

A Reconstruction Feat.—An inquest was recently held in London upon a most singular form of "remains." An extensive fire in which several persons had narrow escapes, had occurred a few days before and among the missing was an old lady of sixty, named Forest. It was at first thought that she had taken shelter with friends, but nothing could be discovered of her whereabouts and a careful search through the ruins of the building resulted in the finding of the charred remains of a single tarsal bone. Enough of its form was preserved to admit of its identification as human and the jury after viewing the fragment and hearing the medical testimony as to its character, expressed themselves as satisfied that it was the sole remains of the unfortunate woman and accordingly returned a verdict of accidental death. This is almost equal to some of the "reconstruction" feats of paleontology.

The Plague.—The most threatening advance that the plague has made as far as our country is concerned is its appearance in the Island of Cozumel, off the coast of Yucatan. The presence of the plague at Santos in December last marked the first invasion of the Western hemisphere by that dread scourge. The invasion of Cozumel brings the disease nearer to our own borders, and is an incentive to still greater precautions on the part of our Marine Hospital Service. The decisive treatment that the plague has received in the Sandwich Islands, and the success which has attended it, is an indication of the methods that should be adopted wherever the plague makes its appearance. In view of the danger of the plague, a bill has been introduced in the New York Legislature extending the powers, in quarantine matters, of the health officer at the port of New York.

March 6th the San Francisco board of health, under the apprehension that a case of bubonic plague had been discovered there, called upon the police to put a cordon about the Chinese quarter. This was done, although definite proof of the genuineness of the case had not been presented. Cultures from the pus are now being made. The steamer "Nanyo Maru," from Japan *via* Honolulu, is held in quarantine seventy miles from Victoria, B. C., under suspicion of having the plague on board. The diagnosis rests between that and beri-beri.

Medical War News.—The triumph of the Army Medical Corps is complete. It has won, first, the admiration and praise of the intelligent public, then of Parliament, and when the situation had dawned upon the intelligence of the generals and they began to pay compliments it was thought the climax was reached. But more remained. At the inspection of the Langman Field-hospital, of which Dr. Conan Doyle is physician-in-chief, that venerable reactionary, the Duke of Cambridge, late Commander-in-Chief, actually took occasion to speak of the good work done by the Army Medical Corps as one of the bright things of the present war. When it is remembered that His Royal Highness, in the long and weary years that he was Commander-in-Chief, before, to everybody's relief, he was deftly and politely juggled out of the position, was regarded as one of the bitterest opponents of any reform of the medical service or improvement of the position of the medical officers, the magnitude of the compliment can be appreciated. It was even reported that while at the head of the army he had upon several occasions expressed himself with perfect frankness upon the absurdity of being expected to recognize medical officers as "gentlemen," in the army sense of the term at least.

Sir Wm. MacCormack sends the following interesting anecdote to the *Lancet:* Corporal Thomas (of the Worcester Regiment), Mounted Infantry, was wounded at Arundel on November 23, 1899, whilst with a party reconnoitring the hills at Arundel. He was leading his pony up a hill when a Boer, about 400 yards distant, fired at him and hit him four times. All the bullets came from the same rifle; he saw the Boer standing up to fire at him. The first bullet struck the fifth metacarpo-phalangeal joint of the right hand on the extensor surface, smashing the ends of the bones composing the joint, passing along the palmar surface of the metacarpal bones obliquely to its exit between the first and second metacarpal bone and making an irregular oval-shaped wound the largest diameter of which was three inches. The exit wound was on the extensor surface of the hand. The irregular, ragged appearance of the wound of exit was caused by smashed bones. The second bullet had its entrance in a small, round, punched-out wound, typical of the Mauser bullet, at the base of the palmar surface of the left thumb and passed obliquely upwards and outwards. Its exit was at the extensor surface of the lower extremity of the radius, the exit being irregular. The third bullet entered at the inferior angle of the left scapula, passing directly from

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behind forwards. (He had turned around after being struck a second time.) The exit was at a corresponding level in front through the sixth interspace, about two inches from the median line. The track of the bullet must have been in immediate proximity to the heart, the pericardium, and the large blood-vessels. Both the entrance wound and the exit wound were small, round, regularly punched out, and typical of the Mauser bullet when striking soft structures. The fourth bullet entered behind on the left side in the tenth intercostal space, four inches from the middle line, passing through the lower part of the chest and the upper part of the abdomen. It emerged in the linea semilunaris about the level of the twelfth rib. The entrance wound and the exit wound were typical of wounds from the Mauser bullet. There were no symptoms of internal injury to either the chest or the abdomen. The patient had a slight rise of temperature for three days. I saw him sitting up in the train a few days afterwards regretting his transfer down country, his chief trouble being stiffness of his right little finger joint. The Boer who hit Corporal Thomas carried him down the hill to the relief station in his own blanket and said that he would give anything not to have shot him because he thought he was going to die.

CORRESPONDENCE.

KEELEY'S LAST MOMENTS.

To the Editor of the MEDICAL NEWS:

DEAR SIR:—I was called to attend the notorious Dr. Leslie E. Keeley just before his death. As I walked into the house he gave a few gasps and fell back dead. He was surrounded by "Christian Scientists," who had been in constant attendance for several days, treating him for an attack of the grip. I was informed that he had been under the same scientific (?) treatment for several years, being a sufferer from chronic heart disease. To all sensible people this is sufficient proof that the vaunted "Keeley Cure," from a medical aspect, is a fake pure and simple. Of course, the great bulk of the medical profession came to that conclusion years ago, but I am sure the readers of the MEDICAL NEWS will be interested to learn that one of the greatest medical fakers of our times was himself the victim of a still greater fake than his own.

West Hughes, M.D.

Los Angeles, California, March 1, 1900.

THE INTRA-UTERINE TRACTION FORCEPS.

To the Editor of the MEDICAL NEWS:

DEAR SIR:—My attention has been called by Dr. Ausgustus C. Bernays to the striking resemblance which my intra-uterine traction forceps bears to an instrument which he devised fifteen years ago.

It gives me great pleasure to acknowledge Dr. Bernays' claims to priority in devising this instrument so far as applied to intra-uterine traction. It is possible that I had seen an illustration of his instrument and forgotten it while shaping mine.

William R. Pryor.

121 East 38th Street, New York,
February 13, 1900.

OUR LONDON LETTER.

[From Our Special Correspondent.]

LONDON, February 24, 1900.

ANOTHER MEDICAL MEMBER OF PARLIAMENT—THE PRINCE OF WALES AND THE HOSPITALS—MR. BALFOUR AND BACTERIOLOGY—STEADY GROWTH OF CREMATION—THE HIGH DEATH-RATE OF DUBLIN—A NEW CARD GAME.

BY the election of Sir Michael Foster to represent the University of London in Parliament the medical profession has secured a new representative in the legislative arena, of whom it may well be proud. Universal satisfaction is expressed with the result of the contest, which, after three days' polling on account of the scattered state of the constituency, gave the celebrated physiologist a handsome majority of over four hundred votes in a total of some two thousand five hundred. An admirable feature of the contest was its strikingly non-partisan character, as shown by the fact that the successful candidate, although a Liberal-Unionist, was nominated by the Conservatives, and, entering the field latest of all, defeated both the "regular" nominees in a hitherto strongly Liberal or Liberal-Unionist constituency. Indeed, Sir Michael frankly declined to label himself politically and his election was purely a case of the fulfilment of the pious objurgation, "and may the best man win." By a curious coincidence the last two previous holders of the seat have both resigned it on account of their elevation to the peerage, Mr. Lowe to be Viscount Sherbrook and Sir John Lubbock to be Lord Avebury, and we trust the tradition will not be broken in the case of the present incumbent. The candidate receiving the next highest number of votes, Mr. W. J. Collins, was also a member of the profession and would in many respects have made an admirable representative, but on account of his pronounced antivaccination views, medical preference was almost universally against him. Although for many years past devoted exclusively to physiology, Professor Foster was in his earlier days in active practice as a surgeon at Huntingdon.

The position of H. R. H. the Prince of Wales is rapidly becoming that of Inspector-in-General for all sorts of public organizations and is no sinecure. One day it is a new regiment, the next a hospital staff, the next a philanthropic association. Two of his functions this week have been of especial interest. One of these was the review of the entire staff of the new Yeomanry Hospital staff at Devonshire House. The medical officers headed by the Senior Surgeon, Mr. Alfred Fripp,

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and Mr. Washbourne, were presented to his Highness, then followed the forty nurses, and, finally, the seventy-nine men of the hospital corps were marched into the ball-room, drawn up in line and addressed in the usual six-line official speech. The medical staff sailed the following day and the nurses and orderlies follow during the week. It seems probable that the hospital will be located at De Aar instead of near Cape Town, as at first planned.

Twenty-four hours later the Prince presided at the annual meeting of the General Council of his own Hospital Fund, which has for its purpose the supplementing of the inadequate incomes of the London hospitals. The report was a most encouraging one, as the receipts for 1899 mounted up to nearly $250,000, an increase of $45,000 over 1898. This is regarded in view of the enormous demands of the various war-funds upon the public charitable purse the past five months, as a most favorable showing. Nearly 300 disused beds have been reopened and maintained through the help of the Fund during the past three years. The claim of the Fund to be regarded as one of the war-relief group, in view of the accommodations likely to be required of the hospitals it assists for wounded and invalided soldiers, was especially urged. The Prince alluded in most complimentary terms to the absence of one of the members of the council, Sir Wm. MacCormac, whose performance of the arduous duties of active service in the field, at his time of life "reflects great credit upon him and gives the utmost satisfaction to all who know him."

At a dinner held in aid of the fund for the new Bacteriological and Physical Laboratories of Kings College, Hon. A. J. Balfour presided and made the speech of the evening. After alluding in general terms to the importance of science and scientific training as the basis of modern progress, he proceeded to express his appreciation of the prominent part in promoting not merely private but the public welfare beginning to be played by bacteriology and the results of its researches. To the English, of all people in the world, with their large tropical and subtropical empire, its value and future usefulness could hardly be over-estimated. He alluded to the fact that this had been officially recognized by the Government by the assistance extended by the Colonial Secretary, Mr. Chamberlain, to the London School of Tropical Medicine and urged his hearers to respond to the appeal of the college in a manner befitting the representatives of the wealthiest city in the world, but one which hitherto had scarcely been fully alive to her obligations to scientific research.

Public attention has twice been called to the work of the English Cremation Society within the past few months, once by the incineration at their Woking establishment of Grant Allen's remains and again a few days ago by those of the Duke of Westminister. A singular case of devotion to principle on the part of a believer in cremation is that of a British officer, killed in South Africa, whose body in accordance with his special directions was brought home all the way to Woking to be cremated. It would certainly have saved much trouble in embalming and inconvenience in transport if the cremation could have been carried out at the other end of the line. The number of cremations reported the past month is almost as large as that for the entire year of 1892.

The mortality of the Irish capital, never of the lowest, has been reaching such astounding figures of late—no less than from 35 to 50 per 100 per annum in some weeks—that it has become a public scandal, and a few weeks ago a joint committee was appointed by the Royal Colleges of Dublin, the corporation and sanitary authorities. This has just published a preliminary report, by the Sanitary Inspector, in which the safe, if not specially illuminating, conclusion is reached that the excessive death-rate is due chiefly to poverty, underfeeding, overcrowding and intemperance. If these factors will not produce a high mortality, what will? Unfortunately, they are not confined to Dublin and the commission has still the task of determining whether these elemental eliminatory agencies exist in higher degree there than elsewhere in the world, and, if so, why? As regards overcrowding, they do seem to have established some claim to excessiveness, at least to picturesqueness and ingenuity. In one room they found each of *the four corners* sublet to a separate individual or family, while the "landlord," or landlady, as it happened to be, occupied the center of the floor! No "absentee landlordism" about this arrangement or danger of rack-renting by a grasping and soulless middleman or "agent." But it really would seem as if the celebrated "pig in the parlor" principle, so charming in rural surroundings had certain draw-backs when transplanted to urban environments, and may even rise to the dignity of a special factor in the death-rate.

A most curious case of will-making under difficulties has just been before the English courts. An old lady had a stroke of paralysis with aphasia and was advised by her medical attendant, Dr. Edmunds, to make her will. The difficulty at once was how to ascertain her wishes in the matter, as there was also motor agraphia. Dr. Edmunds devised the plan of writing down the names of all her relatives upon one series of cards and the various items of her extensive property on a second series. Then the game began. Her solicitor played the title of a piece of property and the old lady after looking through her "hand" of relatives, played a name and the trick was turned and laid aside. From these "instructions" the will was drawn up and read to the testator, who nodded her assent to each item and signed the whole by making her mark. The will, of course, was disputed, but the judge declared the method pursued had been most skilful and perfectly fair, and admitted the will to probate. Dr. Edmunds is certainly to be congratulated upon the ingenuity and effectiveness of his brilliant device.

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TRANSACTIONS OF FOREIGN SOCIETIES.

British.

RESECTION OF GANGRENOUS INTESTINE—MURPHY'S BUTTON AND SUTURE COMPARED—GUNSHOT WOUND OF THE ABDOMEN—EXOPHTHALMOS PRODUCED BY THYROID EXTRACT—GLAUCOMA CAUSED BY HOMATROPIN—EPIPHYSEAL DISLOCATIONS.

AT the Clinical Society of London, January 26th, J. HUTCHINSON, JR., read a paper on resection of gangrenous intestine in cases of hernia, based on the records of 42 operations. There is a general impression that the use of Murphy's button has rendered resection of the intestine not only quicker but safer. To test the truth of this assumption Hutchinson made a collection of hospital cases. There were 15 examples of primary resection of intestine for gangrene performed with the Murphy button, and 16 instances in which suture alone was employed. Only one patient upon whom the button was used recovered (7 per cent.), while six patients whose intestine was sutured recovered (37 per cent.). An artificial anus without resection was performed upon 11 patients, all of whom died. This is a very striking comparison of the result of anastomosis by the button and by suture, and, moreover, the patients who died after suture lived on an average twice as long as those who were operated upon by the button. The post-mortem examination showed, too, better union of the divided ends after suture than after the use of the button. The latter is apt to cause acute congestion by its bulk, and its weight is also a disadvantage. That there is some risk of a resulting stricture after recovery is shown by post-mortem examination of patients who have lived some weeks after gastrojejunostomy has been performed. The greater time required for suture has probably been exaggerated. According to his experience the after-shock is not great. Primary resection of gangrenous, perforated or irretrievably damaged intestine in a hernia must always be attended by a high mortality, but it offers the best chance for recovery of any plan of treatment. Especial care should be taken with the mesenteric portion of the suture, and enough gut should be resected to bring the suture into healthy tissue. Maunsell's method is one of the best to follow.

A. BARKER said that he had recently resected gangrenous intestine on three occasions, using the button once and suturing twice. The patient upon whom the button was used died, and the other two recovered. He once lost a patient from paralysis of the bowel, caused by the heavy button dragging the loop of bowel into the pelvis. He, too, emphasized the necessity of resecting a sufficient amount of gut. Once he took away 35 inches, and the patient made a good recovery.

A. P. GOULD mentioned the case of a young man who was accidentally shot in the abdomen with a small revolver. There was little shock and the pain was not excessive. At operation there were found and sutured four wounds of the jejunum and two of the mesentery. The peritoneal cavity contained some blood, but no gas nor intestinal contents as far as could be seen. The patient recovered.

A. BARKER said that the amount of shock varied greatly in such cases. He once knew a man after a gunshot wound of the abdomen to walk down stairs and profess himself as feeling quite well. The velocity of the bullet must be considered. If the speed is great, the intestinal wounds will probably be small.

N. PITT said that "cow-doctors" puncture distended intestine with a trocar, and peritonitis does not follow. From this one might infer that a small bullet of high velocity may pierce the intestine and yet no serious result follow.

At the Ophthalmological Society, January 25th, W. EDMUNDS gave the results of experiments which tend to show that exophthalmos may be produced by overfeeding with thyroid extract. This is especially interesting as showing that the principal symptom of Graves' disease may be secondary to the goiter. All of his experiments were upon the lower animals, but Beclere had stated that it followed the administration of too great doses of thyroid extract for myxedema in a woman.

J. B. LAWFORD reported a case in which thyroid extract had been given with great benefit to a woman who had suffered with myxedema for five years. Four and a half years later she suffered a relapse, and was put upon thyroid extract. Exophthalmos soon developed.

G. MACKEY knew of an instance in which removal of enlarged cervical glands, and division of the cervical sympathetic, was followed by exophthalmos.

C. H. B. SHEARS read notes of a case of acute glaucoma following a single application of homatropin. A woman, aged fifty-two years, asked for reading glasses. With her hypermetropia corrected her distant vision was nearly two-thirds of normal. One or two drops of homatropin, four grains to the ounce, was put into the right eye. When she returned to the hospital one week later she had all the signs of glaucoma in that eye and could only just count fingers. Pain and vomiting and great loss of sight came on the same evening that the homatropin was used. Eserin and leeches were tried for two hours without benefit. Iridectomy was then performed and the tension and sight were quite restored in ten days and remained so up to the time of report. Shears expressed the opinion that no mydriatic should be put into the eyes of persons over thirty years of age, without careful consideration.

At the Harveian Society, February 1st, D'ARCY POWER showed a little girl whose arm had been injured in some unknown manner and kept in splints for six weeks. Four months later she came to him for a deformity at the elbow. There was a state of cubitus varus, that is to say the long axis of the arm was bent in at the elbow. All the motions of the joint were well performed.

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The radiographs showed that there had been a subperiosteal separation of the lower epiphysis of the humerus, and a shifting of the whole epiphysis toward the inner side of the shaft. The external condyle of the humerus had lost its cartilaginous covering, and the internal condyle had been thickened by periosteal growth. This is an illustration of a whole class of injuries which is just beginning to be understood since they can be studied by means of the X-rays. He had advised against operation since the function of the arm was so good, although the radiograph showed that operation would not be difficult to carry out.

SOCIETY PROCEEDINGS.

THE NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, Held February 1, 1900.

The President, William H. Thomson, M.D., in the Chair.

On motion of Dr. Squibb a committee was appointed to attend the meetings of the Committee on Revision of the Pharmacopœia at Washington. The members of the committee will be announced later.

Dr. Louis F. Bishop, Secretary of the Academy, read a communication asking that the Academy of Medicine formally sign a petition to Congress which is being circulated among the educational, charitable and religious institutions of the country in order to secure a remission of the present exorbitant war-tax on bequests. According to the present law ten per cent. of all moneys devised to such institutions goes to the General Government. As this entails a large loss of money to institutions whch are intended only for the public good, and as the Government is now in no pressing need of funds, it is hoped that an amendatory clause will be enacted to do away with this tax. On motion the President of the Academy was empowered to formally sign the petition drawn up for this purpose.

A communication was read from Dr. W. W. Keen, President of the American Medical Association, asking that the New York Academy of Medicine take official action as to Senator Gallinger's bill for the limitation of vivisection in the District of Columbia, which has been introduced into the present Congress. The President, Dr. Thomson, suggested that not only should the formal expression of the opinion of the Academy of Medicine with regard to this bill be sent to Washington, but that at the proper time a committee, selected for the purpose, should be sent to appear before the Legislative Committee and do all in their power to show that the enactment of this bill, which is being presented so persistently at each succeeding session of Congress, is calculated to do great harm to the development of scientific medicine in America. On motion the formal disapproval by the Academy of Senator Gallinger's bill was directed to be expressed in writing.

Diseases of the Heart.—The discussion which had been opened up by Dr. Musser's paper on myocarditis and Dr. Koplik's paper on myocarditis in children at the last meeting, was resumed.

Dr. Morris Manges said that to know the causes of the failure of compensation is very often to be in a position to treat heart failure at the serious moments when digitalis and other heart tonics fail. Romberg of Leipzig carefully studied a large series of cases and found that the average duration of compensation was seven years, and this in spite of the fact that in one-third of the cases proper compensation was never established. In one patient compensation endured for fifty-three years. We are in the midst of a transition period. Leyden of Berlin by his recent work on the nervous mechanism of the heart and the autonomy of the heart muscle has brought out a number of facts important to practitioners and very different from the old ideas that used to be taught in physiology. The important point in the establishment and continuance of heart compensation is the myocardium. It used to be thought that undue distention of the heart gave rise to fatty degeneration. Fatty degeneration of the heart muscle is now considered to be of minor importance. Residual blood in the ventricle and auricle is not so important as it was formerly thought to be. Where the heart muscle is reasonably healthy undue distention will return. Where nutrition is unequal to the importunity, however, the heart muscle will surely fail. Hypertrophy of the muscular fibers does something to overcome pathological conditions, but there must be a return to normal nutrition or compensation will not be established. For this the tone of the heart muscle is important.

Heart Dilatation and Its Results.—Dr. Theodore Schott of Nauheim showed by a series of skiagraphs that the heart is distinctly dilated after severe exercise, such as bicycling, running, and the like. This dilatation of the heart, if associated with malnutrition of the muscle, may become permanent Dr. Krehl showed that all changes in the blood vessels of the heart began in an endo- or pericarditis which caused muscle necrosis and fatty degeneration. This occurs at various points throughout the organ. Dehio showed that fibrosis was not an uncommon process in the heart. This consists of a development of fibrous tissue in the midst of the muscle fibers and is really a conservative process on nature's part. When the muscle fibers have lost some of their elasticity because of the occurrence of degeneration the elasticity of the connective tissue supplies its place to a certain extent. The foci of degeneration occur by preference in the left auricle, the left ventricle, the right ventricle and in the right auricle respectively.

Importance of Myocarditis.—Where endocarditis develops in a heart the prognosis depends not so much on the endocarditis as on the complicating myocarditis. The hypertrophy which oc-

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curs as a consequence of both these inflammations is followed by subsequent changes in the myocardium mainly connected with the blood vessels, thus altering the nutrition of the organ. Myocarditic changes may be conservative for a time, preventing overaction of the heart. When arteriosclerosis sets in, however, degeneration is apt to occur although with proper care it may be controlled for a long time. It is the custom to talk so much of compensation by itself and without reference to its causes that it is apt to be considered as a definite entity. It is not, however, but is only a condition of equilibrium induced by favorable circumstances in a heart weakened by some affection. The easiest way to understand this is to study the factors which may undo the equilibrium. Such factors are generally unfavorable constitutional conditions, such as anemia with its consequent effect on the nutrition of the heart muscle. Obesity has a like effect. Decomposition often follows reduction cures. To undertake the reduction of very much weight in a person whose heart is already enfeebled is to run the risk of seriously injuring, perhaps permanently, the compensation. From Carlsbad the physicians are now accustomed to send patients who have taken the reduction cure to Nauheim for after-treatment. It is no wonder that this is so, for rapid loss of flesh always means loss of tone in all muscles, especially the heart muscle. Organic disease, such as nephritis, or the constitutional diseases like diabetes or gout impair the nutrition of the heart muscle and so lead to decompensation. The specific infections, as influenza, have a toxic effect upon the heart. Rheumatism is especially liable to affect the heart in a number of ways. It not only damages the valves, but may directly affect the myocardia. Many of the toxins of the infectious fevers affect the vasomotor system and so disturb the local nutrition. Coronary arteriosclerosis may set in and then the patient must be warned to avoid any overexertion or strain of the heart muscles.

Muscular Overexertion.—This is an important factor in causing the development of decompensation. Athletes frequently strain the muscular fibers of their hearts. Bicycling in our day has become a serious disturber of heart compensation. Schroetter of Vienna insists that exercise must be taken with the head as well as with the muscles. That is it must be above all judicious. Parturition is apt to act as a strain on the heart muscle as does overexertion in athletics. Pericardial adhesions hamper the heart muscle very much. These lead to premature degeneration. Chronic lung troubles are another important source of decompensation. Krehl has shown that the degeneration of the heart muscle begins very often in the right auricle. Nervous conditions of the heart not necessarily connected with any organic lesions may also lead to premature degeneration. Extreme mental emotion, anxiety, fright, worry, all may have this effect. A broken heart is an actuality. The influence of extreme grief is sufficient to cause degeneration which prevents heart action. Osler considers that acute dilatation from such causes may be followed by death in a few days or may lead to dropsy and chronic cardiac weakness.

Abuse of Drugs.—Unsuitable medication is a frequent source of cardiac decomposition. Cardiac tonics especially are open to abuse. To consider heart murmurs as a signal for the use of digitalis or strophanthus or some allied drug is to precipitate cardiac failure. The Nauheim treatment and Zander apparatus are often abused in a way that leads to serious disturbance of a compensation which might otherwise have kept the patient in reasonably good condition for years. Such cases have even occurred at Nauheim itself, and patients have been worse on their return from a voyage that they hoped would be a source of the greatest good. The coal-tar products have also been abused in the same way and with the same serious consequences. Thyroid preparations have been liable to the same abuse. Cardiac treatment should not be begun merely because murmurs are heard, no matter what the character of the murmurs may be. Only when some signs of heart failure are present should active heart treatment be instituted. It must be remembered that constitutional treatment is at least as important as direct treatment of the heart itself.

Aortic Valvulitis.—Dr. Frank W. Jackson said that the prominent causes of chronic aortic valvulitis, which are the only cases he cared to consider, are rheumatism, syphilis, alcohol and gout. In our time there is no doubt that we have good reason to think that a very important cause of aortic valvular disease is muscular strain. Athletes and those who overexert themselves are especially liable to this disorder. Of the two forms of aortic trouble, pure aortic stenosis is rare although it is the usual form that aortic trouble takes in the aged. It may lead to disturbances of the cerebral circulation and cause fainting or give rise to emboli. It must be remembered that a systolic murmur at the base of the heart does not necessarily imply an aortic stenosis. It may mean only an aortitis or only a thickening of the aortic valve and may occur under certain conditions in health. Aortic insufficiency is as common as aortic stenosis is rare. A combination of the two is not as common as is sometimes considered. A double murmur may exist at the aortic cartilage and yet the only heart lesion be a simple aortic regurgitation. Osler thinks that 30 to 50 per cent. of all valvulitis terminates in aortic insufficiency. Overexertion is a very common cause and the athlete's heart is typically that of aortic insufficiency. The symptoms are characteristic. Too much weight has been given to the murmur. In the absence of all murmur there may still be an aortic insufficiency. The murmur may be evanescent. It may disappear for a day or two, or even an hour or two and then return. Usually such a varying murmur is functional in origin, but it must be borne in mind that it can be organic. The murmur may be inaudible to the ear and be plainly heard by the stethoscope. It may be ab-

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solutely inaudible by the stethoscope and yet be plainly heard by the ear. For this fact there is no explanation.

Regurgitant Murmur.—The murmur of aortic regurgitation may not always be heard best in the classical place. It may at times be best heard at the ensiform cartilage or at the base of the heart; disappear when the ear is carried down the sternum, and yet be plainly heard at the end of the sternum. Prof. Allbutt's picturesque expression of this fact is worth recalling, "Murmurs, like rivers, sometimes run under ground." The murmur of an aortic regurgitation may be heard only at the apex, and give rise to the thought that a mitral lesion exists. In a word the murmur as a symptom requires careful corroboration. A harsh systolic murmur at the second left intercostal cartilage may be due to aortic valvulitis, but may also be due to pressure on the pulmonary artery or to anemia. The size of the heart is very important in aortic regurgitation. The form of the thorax may give the impression of an enlarged heart when no enlargement exists. In a long thin thorax a large part of the heart is uncovered in front and so a normal organ may simulate the heaving impulse of a hypertrophied heart. It may also give the impression of an apex beat in the sixth interspace when it is really in the fifth. It must be borne in mind also that tumultuous heart action may mean no more than a neurosis of the heart. The condition of the kidneys should always be looked to very carefully, for an enlargement due to nephritis may closely simulate aortic disease. Pain is an especial symptom of both forms of aortic disease. In cases in which the symptoms of pain was particularly investigated sixty-eight per cent. of those suffering from aortic trouble complained of it. In 180 cases of mitral valvulitis only seven and two-thirds per cent. complained of pain.

Aortitis Angina.—Inflammation of aorta may exist either with or without aortic valvular trouble. It is usually a chronic productive inflammation leading to necrosis and degeneration with production of atheromatous plates in the aorta, or it blocks the orifices of the coronary arteries, or leads to aneurism. The rough surface of the aorta over the inflamed part may give rise to a distinct murmur. Arteriosclerosis of the coronary arteries is much more frequent in New York than it is usually thought to be. The symptoms it occasions are usually attributed to dyspepsia. When a frank attack of angina pectoris occurs it is hard to understand how many practitioners still cling to the idea that there may be nothing more serious the matter than some functional stomach trouble. In a recent case the patient said he felt as if a devil were under his breastbone. There was no murmur although the aortic sound was weak. The patient died in a typical attack of angina. In another case in which a man had been denied insurance because his pulse was constantly 90 and occasionally intermitted there had been some pains in the heart region and down the arm. Murmurs were absent and there were very few signs of heart trouble. The patient died, however, from angina, having his first characteristic attack at the end of life. Usually in these cases there is enlargement, and the aortic sounds are feeble or absent. In addition to this, changes can be noted in the arteries in other parts of the body.

Dr. Thomas E. Satterthwaite's paper, entitled "Recent Methods of Treatment of Heart Diseases by Baths and Exercises," was then read (see p. 361).

The Myocardium in Compensation.—In the discussion Dr. Leonard Weber said that the important factor with regard to loss of compensation is the degeneration of the myocardium. If the myocardium is not diseased the heart muscle may be overstretched and yet recover. This has occurred in his own personal experience. If this were not true there would be many more deaths from acute rheumatism. It is true the overstretching can cause a fatal issue by its suddenness, heart failure setting in as a consequence of the continued weakness of the circulation. One of the difficulties in discussing the older literature is that the existence or non-existence of degeneration was determined on autopsy by macroscopical examination alone. At the present time microscopic examination discloses extensive degeneration when there is not the slightest sign of degeneration to the naked eye. Usually there are a number of foci in process of degeneration scattered here and there, especially at certain susceptible points in the heart muscle. Of late years there has been a good deal of talk in America of Nauheim and of the Nauheim methods of treatment. It seems of interest then to give a few "don'ts" from the experience of one who has been at Nauheim and who has seen the results of mistakes made by practitioners in sending patients to Nauheim. (1) Don't send neurasthenic patients. When patients have begun to lose their personal grip of themselves and are morbidly introspective they should not be sent to Nauheim, but to the bracing air of the mountains. (2) Don't send patients immediately after acute rheumatism. Nauheim itself is damp and eminently unfavorable for this class of patients and the baths do them more harm than good. At Nauheim it is the custom to say that the baths bring the rheumatism out, but it is really the climate of the place. (3) Don't send patients with tabes, nor as a rule patients suffering from incurable nervous affections, even though they may have complicating heart affections. Such patients may be afforded temporary relief by the indifferent thermal baths of other watering-places. (4) Don't fail to provide your patient with an accurate written history containing the exact diagnosis of his ailment, of any complications that may exist and of a list of the prescriptions that he has been taking recently. During the season physicians at Nauheim are extremely busy. The season lasts but a few months in the summer-time and the doctors must make their living for the year. They may not make exact diagnoses,

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and thus may miss important complications that contraindicate certain features of the treatment. (5) Don't, if you are giving Nauheim treatment at home, advise baths every day, but at most every other day, and only as frequently as that for sthenic cases. Ever fourth day is sufficient for the ordinary weak hearts that are the most suitable subjects for this treatment.

Heart Murmurs.—Dr. William H. Thomson said that he had arranged this discussion on diseases of the heart mainly with the idea of bringing out the fact that murmurs are not the all important symptoms in cardiac affections. There are a number of symptoms that have great significance apart from murmurs. Dr. Musser showed how insidious may be the progress of myocarditis and how it must be missed very frequently even when a good deal of care is taken in the examination of the patient. These cases terminate very frequently in congestion of the lungs. A not unusual symptom is rather rapid short breathing with comparatively long inspiration. An alteration in the complexion is not infrequent although it is not invariably present. A weak heart impulse and a weak pulse are strongly confirmative of other symptoms that may be present. Mental and renal symptoms sometimes supervene and help to substantiate the diagnosis. Dr. Koplik showed the importance of the myocardium in children. Very often this becomes degenerated during one of the exanthemata in early life or from the violent coughing of whooping-cough and then, when one of the infectious fevers develops later, heart failure is apt to supervene. A study of heart diseases shows that the heart is very different from an organ that merely opens and shuts valves. The muscular walls of the heart itself are much more important than the valvular mechanism. Defects of the valvular mechanism may be made up for, but the degeneration of the heart muscles cannot. It is a great mistake of therapeutics to place much reliance on the heart tonics in the hope of deriving from them any permanent relief. Digitalis, strophanthus, and nitroglycerin only stimulate function for the time being, but if relied on for any length of time inevitably lead to disappointment. They are only adjuvants to the real heart remedies. These are open air exercise, good hygiene, plenteous unirritating food, everything, in a word, that puts the patient in a good condition. Some time we shall have open air sanatoria for heart diseases. Then we will have the true rational treatment for cardiac affections. All muscular power is in direct proportion to the respiration. This is a great biological principle. If we breathed through our skins as does the flea we should be able to leap as he does. The difference between our comparative muscular powers is due to the greater amount of oxygen the little creature absorbs. It is wonderful what an effect open air treatment has on the heart, just in the same way it affects all muscles. A camping tour for five or six weeks will do more for failure of muscular power in the bladder than almost anything else that can be advised. Gynecologists could go out of business if the doctrine of fresh air for women were more persistently practised.

As to drugs, iron is important because it helps us to breathe. It is the iron compounds in the blood that act as carriers of oxygen. Next to iron the saline purgatives are the best drugs. These relieve the congested circulation and so do a great deal of good. The saline waters of Kissingen and Vichy are of exactly the same formula as the blood, minus the corpuscular elements. There is no stimulant that equals a full dose of these for hepatic torpor and chronic congestive conditions during cardiac affections. The intermittent use of calomel is an extremely important and helpful therapeutic measure. Sodium iodide often does a great deal of good for the relief of symptoms. Undoubtedly the judicious use of these drugs helps to prolong life.

NEW YORK COUNTY MEDICAL SOCIETY.

Stated Meeting, Held Monday, January 29, 1900.

The President, George B. Fowler, M.D., in the Chair.

Dr. Fowler announced that owing to the praiseworthy efforts of Dr. Henry Dwight Chapin, the Chairman of the Committee on Hygiene of the New York County Medical Society, the members of the Society would have the opportunity of listening to a thorough discussion of New York's milk supply, its character, its sources, its safeguards, its dangers, of the remedies that would be used to improve it and the methods that could be employed to gradually make it the best milk supply in the world.

New York's Milk Supply.—Dr. Chapin said that there was no subject more important for physicians and for the general public in the matter of food supply than the milk furnished to New York. In all 1,250,000 quarts are delivered in New York every day. This comes from five States, *viz.*, Connecticut, Massachusetts, New Jersey, Pennsylvania, and New York. In the city of New York there are 23,500 cows. Most of the milk that is supplied is at least twelve hours old and a great deal of it from twenty-four to thirty-six hours old. It is easy to understand how difficult it is to keep milk clean and how important it is that it should originally be obtained as free from foreign matter as possible. In many places where milk is shipped there are separating stations where by centrifugation foreign particles are removed. At one of these stations 1800 quarts are purified in about two hours. The examination of the sediment shows that it contains air, pus, blood, cocci, bacilli, and an amount of vegetable matter partly from hay and straw in the stables, and partly from the excrement of the animal. The solution of the problem of pure milk is cleanliness on the farm. If this lesson can be taught great good would

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be accomplished. It can only be taught, however, by making the farmer appreciate that greater cleanliness means an increased price for his milk. At present in spite of stringent laws on the subject there is a large sale of various preservatives of milk. These are extensively advertised by most of the sellers of dairy articles. The most commonly used preservatives are boric acid, borax and formalin. None of them are harmless and formalin, especially, hardens the curd and makes it very difficult of digestion. It is interesting in this regard to note that a substance has recently been placed on the English market which is called lactohorn. It is meant to replace horn gutta-percha, ivory and celluloid for knife-handles, combs, and the like. It is made from the caseine of cow's milk hardened by means of formaldehyde. Physicians can improve the present condition with regard to the milk supply by united action. An advisory board of physicians who would study the conditions and advise both farmer and dealer would be of the greatest value. A physician advisor has been appointed to a number of private dairies and this feature has led to some very notable improvements and has been a source of a great deal of satisfaction even from a business point of view.

Department of Agriculture and Milk.—Major Henry E. Alvard discussed the dairy division of the Bureau of Animal Industry at Washington, of which he is chief, and its connection with the dairy industry in the United States. Up to the present time there has been no surplus of dairy products in the United States except of cheese, and therefore it has not been necessary to look for foreign markets. At the present time, however, there are indications that there will be a surplus of dairy products. It is of the greatest interest that our dairy products should be of the very best quality and an exhibit in this department is planned for the exposition at Paris. At present the statistics of the milk supply are very incomplete. The last census gives about one cow to every fourteen inhabitants of the United States. This seems a reasonable number, but a little consideration will show that it is inadequate to supply the amount of milk that should be used. The average cow is supposed to yield daily from six to eight quarts, but in reality gives less than four quarts, so that there is scarcely more than half a pint of milk a day to each inhabitant of the country. The conditions for the collection and distribution of milk in the cities of the United States have improved very much during the last twenty years. Not only is the milk itself better, being richer in fats and solids, but it is more free from organic material of all kind, especially micro-organisms. Alarmist reports of the possibility of the spread of disease by means of milk do much harm. Occasionally, but, it must be said, very rarely do they serve to prevent some few cases of disease. The average amount of cream on the milk generally supplied to cities is four per cent., although only three per cent. as a rule is required by law. It is very probable that four per cent. milk would prove almost too rich and would require dilution for infants and for invalids. Preservatives, boric acid, formalin and the like, are rightly condemned. They put a veil over evil and set a premium on uncleanliness. Sterilization and Pasteurization, although it is the custom to laud them so much in our day, are scarcely better. At best they are only a cooking of the milk, cover a multitude of sins in its preparation, and put a premium on carelessness. While in particular cases for infants and invalids they may be of use, their employment should never become a general rule. Condensed milk is much less digestible than is plain whole milk. This entire subject needs the most careful consideration.

Value of Skim-milk.—There is in this country an immense supply of a most valuable food product which is not made use of to the extent to which it ought to be. Skim-milk is not permitted to enter the city of New York, although immense quantities of it are easily accessible. The method of dealing with the subject can only be characterized as the lazy man's way and a criminal way. The sale of skim-milk might easily be regulated, although this, of course, would require care and the proper enforcement of laws. Absolute prohibition seems more easy to the authorities, but it is not so effective in the end. As a matter of fact no animal food compares pound for pound with skim-milk in its value as a food product. Yet this very valuable substance is absolutely forbidden in New York City. It may not even be sold for what it is. While other towns throughout the country derive a very great advantage from it and use it at two to three cents a quart, New Yorkers are absolutely precluded from its use. A cheap, wholesome food, readily accessible, is thus entirely denied to the poor. At the same time condensed skim-milk may be purchased in the open market. There is no question in regard to the better and well-known brands in which the whole milk is used for condensing purposes, but of condensed milk at five, six, and eight cents a pound; fifteen to eighteen cents a pound must be the price if there is to be any guarantee that it is whole milk which has been condensed. This treatment of the skim-milk question constitutes an unfortunate blot on New York's management of her milk supply which should be removed as soon as possible. It will not be hard to do it and the reform will be of great advantage to the poor and will supply them with most nutritious material for food at the very lowest rates.

Bacteria in Milk.—Professor H. W. Conn of Wesleyan University, Middletown, Conn., reviewed the recent advances in the bacteriology of milk. He agrees with Major Alvord that alarmists on the subject of danger from infected milk are liable to do a great deal more harm than good. Just what are the noxious elements which may get into the milk it is well to know and to provide against. If the sediment from an ordinary separator be examined it will be found to contain sticks, insects, legs and wings, particles of hay and straw, blood, pus, all kinds of dust and quite

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an amount of organic material. Most of this organic material is really composed of cow excrement. It has been calculated that three hundred pounds of bovine excrement find their way into New York City every day in the milk. The reason for this is very clear. The cows in most dairies are never cleaned. The excrement is allowed to cake on them until thoroughly dried, when it is easily rubbed off during the milking process. Much of this may be removed by the separator. But unfortunately the separator is entirely unable to remove the finer particles. As a matter of fact, more bacteria can be found after the passage of the milk through the separator than before. All that seems to be accomplished by centrifugation is that hosts of bacteria clinging together around particles of dust are broken up and diffused more widely through the milk. It is important to know just where the bacteria come from that get into the milk. Their first source is from the dirty hands of the milker. The second source is the air. Very often when cows are being fed, hay is shaken down before them and the animal while feeding shakes this up more or less. This gives rise to a cloud of dust-particles to most of which a number of bacteria cling. The third source is the vessel in which the milk is placed. These vessels are either never thoroughly washed or are washed with unclean water. Even after thorough cleansing they are allowed to remain exposed to dusty air. The fourth and most important source of bacteria is the cow herself. There are no bacteria in the milk when it is secreted from the gland, but there is always a number of bacteria in the milk-duct which accumulate between the milkings, which are washed out by the first milk that is pressed from the udder. It has been shown by demonstration that there is a constant rain of bacteria beneath the animal. Gelatine plates exposed for a short time beneath the animal show a large number of colonies.

Danger from Milk Bacteria.—Most of the bacteria in milk are practically innocuous. In fact, even in so-called pure milk from three to four thousand will be found in every cubic inch. In ordinary city milk three to six million bacteria per cubic inch is not an unusual number. It is only when the number reaches three to four hundred millions per cubic centimeter that the milk is considered to be very bad. The number of bacteria in any given sample of milk depends, first, on the cleanness of the dairy from which it has come and, secondly, on the age of the milk and the temperature at which it has been kept since it came from the animal. London derives all of its milk supply from a radius of 80 miles and the average age of the milk when distributed is about seven hours. Berlin derives its milk supply from a radius of thirty miles only and practically none of it is more than six hours old when distributed. New York, as has been told this evening, derives its milk supply from a radius of over 300 miles and yet because ice is freely used during its transportation the bacteria are not so numerous in the average sample of the city's milk as in an average sample of that supplied to London or Berlin. Milk is eminently liable to be affected by microorganisms, yet this fact is not entirely a disadvantage. It is to it that we owe the milk industry. If the grocer could store and sell milk as he does molasses there would be practically an end to the immense industry which has grown up to supply our large cities with milk. Were we to blot out the bacteria there would be other disadvantages in addition to those that would accrue to the present milk trade. The flavor of butter is mainly due to bacteria. In this country we are prejudiced in favor of rather highly flavored butter. In Europe a tasteless butter is preferred, but such dairy products would not be popular in this country. With regard to cheese nearly the same thing is true. Practically all the varieties of cheese are due to different varieties of microbes that grow in the curd and produce the flavors which are so gratifying to the taste. It must be borne in mind, then, that most of the microbes in milk are absolutely harmless. Many of them are very beneficial.

Disease Producers in Milk.—Three types of disease-producing materials are found in milk; first, that from disease of the cow herself; secondly, that due to contamination of the milk after it has come from the animal and, third, that due to toxins produced by bacteria which grow in the milk. Of the first type of disease-producers the most prominent is the tubercle bacillus. No doubt there exists in milch cows considerable tuberculosis. There is also no doubt that a tuberculous cow may give tuberculous milk. Where the tuberculous process exists in the udder of the cow there will almost always be tubercle bacilli in the milk. It is extremely uncertain whether tubercle bacilli ever get into the milk when the tuberculous processes are situated in other parts of the animal than in the lacteal apparatus. Granting the presence of tubercle bacilli in milk it is still uncertain whether the tubercle bacilli which produce tuberculosis in cattle will also produce the disease in human beings. How much risk there may be is not certain. Some slight amount of danger exists, but there is danger in everything in this world and the risk of being infected with tuberculosis by tuberculous milk is certainly much less than was formerly thought.

Tuberculosis in a large majority of cases first attacks the lungs. It obtains entrance by the breath, not by the food. Intestinal tuberculosis as a primary infection is rare. It is at least possible that the bacillus which produces tuberculosis in the cow is not pathogenic for man and that the bacillus of human tuberculosis may not affect the cow.

Human Tuberculosis Decreasing.—While human tuberculosis is on the decrease, bovine tuberculosis is on the increase. Human tuberculosis is decreasing as rapidly in England and the United States as it is in Germany, although in the English-speaking countries milk is used raw, while on the Continent it is always boiled before being taken. There is probably greater danger

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in an evening at the theatre or at the opera than there is in the ordinary consumption of unboiled milk. It is probably that at such gatherings infection most frequently occurs.

Scarlet fever and diphtheria are perhaps communicated through milk. Certain reported epidemics in England seem to prove this, although as yet here in America we have had no observations confirming this fact. The most important secondary contamination to which milk is liable is that with the typhoid bacillus. There are reports now in medical literature of more than fifty epidemics of typhoid fever traceably to the milk supply. The great reason why typhoid fever is so much more apt to be communicated by milk than is tuberculosis is that the typhoid bacillus grows in milk, while the tubercle bacillus does not. In these epidemics the typhoid fever can be traced all along a milkman's route. It is an interesting and important observation that as yet there has been no instance in large cities of a typhoid fever epidemic being traced to the milk supply. The sporadic cases which occur in large cities may be due to the milk supply, but the milk is usually so mixed from different sources that it is impossible to decide just where the infection may have come from. In addition to typhoid fever there are a series of intestinal diseases especially marked by diarrhea which occurs as the result of the bacteria in milk. These do not seem to be due to any particular germ, nor to any single pathological entity, but are the result of the slow poisoning consequent on the constant presence of bacterial toxins in the milk for considerable periods. That this is the true explanation of the etiology of these diseases may be seen from the fact that the virulence of the epidemic rises and falls with the temperature and the whole number of bacteria present in the milk, while no definite pathologic germ can be found.

Remedy for Present Condition.—The ideal remedy for the present abuses and dangers in the milk supply would be absolute cleanliness in the dairy and on the farm. This does not, however, seem to be possible in the present stage of civilization. In the words of an old friend "it is a condition and not a theory" that is present. The actual condition must be met as far as possible. There is no doubt that Pasteurization of milk covers up a multitude of evils. But it undoubtedly constitutes the best method at present for treating the contaminated milk. At Copenhagen there is a large establishment in which milk is Pasteurized and sold at the same price as ordinary milk. The reason very candidly given for this being done is that less care is needed in the collection of milk which is to be Pasteurized. Under these circumstances, of course, Pasteurization is rather an evil than a good. Where children must be fed with milk long hours after its collection there is no doubt that Pasteurization will prevent many of the dangers to which they would otherwise be exposed. For invalids and weaklings generally the doctor will, of course, prefer the milk Pasteurized; it will still contain noxious substances, for not all of the toxins of the bacteria that are present in the milk are destroyed, but at least all the living germs have been killed and infections will not take place.

Cheap Milk is Poor Milk.—There is the cardinal principle that must be remembered when buying milk for family use. If a proper price is not paid for milk the purchaser cannot expect to get a good product. Milk constitutes one of the most valuable food products that we have. It should be used much more than it is, but if it is to be used with benefit and without danger the consumer must be satisfied to pay a fair price for it.

Dr. Herman Betz, in charge of the inspection of milk, Department of Health, New York City, read a paper entitled "The Work of the New York Board of Health in the Inspection of Milk."

Milk-Dealer's Standpoint.—Mr. Cuddebach read a paper on this subject, in which he said: There are two classes of purchasers of milk, those who want cheap milk, and those who want good milk irrespective of the cost. The standard as to what constitutes good milk is very vague in most people's mind. There was a time not very remote when people thought that good milk should give ten per cent. of cream. This led ingenious unscrupulous dealers to remove a certain amount of the skim-milk underneath the cream and thus spoil the correct proportion of the natural milk. Of late years the centrifuge has been found a very useful machine in removing dirt of various kinds from the milk. It has been found by the dealer, however, that the use of the centrifugal separator so disturbs the cream in the milk that it does not rise to the top as plentifully as it did before. This spoils the milk in some people's eyes and often hurts the sale. Thus a process which benefits the milk the dealers find to be a positive disadvantage. It is evident then that an education of the people is needed which will enable them to appreciate good milk. The law of supply and demand will inevitably be exerted. The dealer will not supply a less salable product and is perfectly ready to make any changes which will benefit his trade. If the people demand thick cream at the top of the milk with plenty of dirt at the bottom of the bottle, that is what they have to provide. If there were a good demand for good milk there would need to be no increase of price to supply it.

Mr. L. B. Halsey said that this is the first time that doctors and milk dealers have gotten together to exchange ideas on this important topic of the milk supply of a great city. Not all milk dealers are in the business merely for all the money that can possibly be made out of it. Many of them are ready to make some sacrifices to raise the standard of the product which they are handling. There is no doubt that proper rewards will come to those who make some present sacrifices for the purpose of securing a better product for distribution. Milk cans must be made sterile as far as elbow grease, hot water and soap and soda with plenty of sunlight can make them. To have the farmer cleanly, however, we must assure him a

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fair price for his milk. We cannot go and demand extra precautions and offer him no more than he can get by his present careless methods. To get good milk and distribute it at less than eight cents a quart is impossible. To buy milk at a less price than this is to encourage the furnishing of a bad product. The people must be educated to know what good milk means. Even physicians may need some instructions in the matter. It is almost amusing to consider how the milk supply of wealthy families is obtained at the present moment. The buying of milk is left to the chef. He, of course, does not buy what he knows to be the best milk, but obtains his supply from the man who will pay him a commission of ten, fifteen, or twenty per cent. Practically, then, the milk-dealer may supply him with whatever sort of milk he cares to and no complaint will be heard. The milk-dealer, then, cannot look to the multimillionaire families for any encouragement in providing good milk. If the woman of the house is entirely engaged with society occupations and women's clubs and her charities, she cannot see to the milk supply and that duty devolves on the cook. If you want to sell milk to the cook you must "do the right thing by her" and then you can sell her what milk you please. Price, not quality, is the desideratum. It is evident, then, that a good deal of education is needed among all classes of society in order that good milk may be appreciated. For this education of the classes the milk-dealer must look to the physician. Working together good milk supply can be secured if the public is satisfied to pay a fair price for a good product.

In discussion Dr. Betz said, with regard to certain assertions made by Major Alvord that a word must be said in extenuation of the regulations with regard to skimmed milk in New York. No skimmed condensed milk is allowed to be sold. Brand after brand has been driven from the market. It may be said that at the present time there is practically no sale of it in the city. The use of preservatives has also been entirely driven out. For years now although frequent samples have been tested in the laboratory for the presence of preservatives none have been found. Some years ago formaldehyde was found in certain samples of milk, but it is no longer used.

Human Tuberculosis Contagious for Cattle.—The question has been raised whether the tubercle bacilli from human subjects are ever pathogenic for animals and the converse as to whether animal tubercle bacilli are pathogenic for man. A very striking illustration of the first occurred not long ago in the service of the New York City Board of Health. There is a sanatorium for tuberculous patients within the city limits situated on Long Island Sound. Belonging to the sanatorium there was a herd of five cows. Tuberculosis was suspected to exist among the animals and a test showed that four out of the five were tuberculous. The fifth animal gave absolutely no reaction to the tuberculin test. Three months later, however, the tuberculin test proved positive. The animals were all killed and proved to be extensively tuberculous. It was then noted that the animals were accustomed to feed on a lawn where the tuberculous patients frequently used to sit. Undoubtedly the sputum from these patients on the grass was the source of the disease in the cattle. It seems worth while to report a slight epidemic of typhoid fever that occurred from milk in New York, since it has been said that it is hard to trace such epidemics, as a rule, in large cities, and none have been reported. A series of cases of typhoid fever occurred in a fashionable boarding-school on the west side of the city. After careful investigation nothing suspicious could be found in the house itself, in the inmates or the water supply. It was, however, deemed advisable to trace the milk supply. This came from a dairy out on the Sussex road in New Jersey. Investigation showed that here was the source of the epidemic. A farmer's son had been treated for typhoid malaria. The stools had been thrown into a privy situated on a stream above the dairy. While this water was not used for washing the cans it was used for cooling them and in this way the typhoid bacilli got into the milk. As a the result of the same source of infection a number of towns in New Jersey had epidemics of typhoid plainly traceable to the milk supply.

Failure of Health Board.—Dr. Piffard said that instead of improving the milk supply the improper and unwise regulations of the Health Board have proved a source of harm. There has been no improvement in the regulations for fifteen years. The milk supply has undoubtedly become better, but for this the health authorities must not be thanked, but the truly commercial spirit of the milk-dealers who realize that a good product is more profitable in the end. Three per cent. of cream is entirely too low a standard for milk. It should be four per cent. at least. Other milks of even higher cream standards should be sold with the guarantee of their richness. The test of three per cent. of cream and twelve per cent. of solids in milk is entirely a false standard. The farmers in Delaware county found that when they shipped four hundred gallons of milk with four per cent. of cream on it they got no more for it than if it had but three per cent. of cream. They therefore skimmed forty gallons of the milk, removing the cream and putting the skimmed milk back, thus making the milk of the proper standard as regards cream and solids. It would have taken a chemical analysis to have demonstrated the sophistication. The regulations of the New York Board of Health have demoralized the industry. The present cream standard for milk should be at least 3½ per cent. and after five years it should be made 4 per cent. The fact that the standard is to be raised should be publicly announced so as to encourage the farmer in the selection of the best milch cows. It has been stated that New York obtains its milk supply from a radius of 500 miles. There is no need that milk should be shipped so far. There

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are grazing lands in abundance near New York that are available and their use should be encouraged. The shipping of milk for long distance in cans is open to decided objections. The length of time necessary for it to reach its destination adds to the objections to such long shipments. Milk shipped in cans should not be accepted for distribution in New York City if it comes from farther north than Albany or farther west than Binghamton. Where milk is placed in glass and stored in refrigerator cars it does not make any difference how far it may be shipped. Legal regulations would add greatly to the safety of our milk supply.

REVIEWS.

Transactions of the American Orthopedic Association, Thirteenth Session. Held in New York, N. Y., May 31 and June 1 and 2, 1899. Volume XII. Philadelphia: Published by the Association, 1899.

THE transactions of this Society appear in a very neat volume of 368 pages, printed upon extremely good paper, and illustrated with about 130 reproductions of photographs or diagrams. There are some fifty-one articles on orthopedic subjects, of which ten are on new instruments. On the whole, this collection of papers shows good work on the part of the members, and the advance not only in orthopedic surgery, but also in the use of mechanical appliances and gymnastics in this specialty.

A Text-Book of Physiological Chemistry. By OLOF HAMMARSTEN, Professor of Medical and Physiological Chemistry in the University of Upsala. Authorized Translation from the Author's Enlarged and Revised third German Edition. By JOHN A. MANDEL, Professor of Inorganic Chemistry and Physics, and Adjunct Professor of Physiological Chemistry in the University and Bellevue Hospital Medical College. Second edition. First thousand. New York: John Wiley & Sons. London, Chapman & Hall, Limited.

IN no department of economics, perhaps, is the law of supply and demand better illustrated than in the province of medical literature. As research advances there is constantly attending it a concomitant widening of the technical horizon and avenues for investigation are perpetually presenting themselves in new directions. But the path of scientific progress is always broadly marked—by a trail of printer's ink, and as each new subdivision of medical knowledge or of allied branches becomes the center of interest there speedily springs up a mushroom crop of special text-books and treatises designed to elucidate it. It is therefore incontrovertible evidence of sterling merit when an older book for years holds its own against the newer comers and maintains its position as a standard in spite of the lucubrations designed to supplant it. Such a one is the volume before us which for over a decade has been the recognized authority in its field and now in its second American edition revised and enlarged from the author's third German issue seems destined to another period of undisputed rule.

With so well known a work, discussion of the subject matter is superfluous, but for those to whom it is new it may be said that it well deserves its reputation of being the most complete and practically useful exposition of the subject in the language.

Proceedings of the Pathological Society of Philadelphia. January, 1900. New Series, Vol. III., No. 3.

F. R. PACKARD notes that the earliest autopsies recorded in this country were performed about 1674. Jopson and Ghriskey report a case of anthrax with typical vesicular primary lesion but no systematic symptoms until the ninth day, when the temperature suddenly rose and the patient died in an attack of dyspnea. Arthur Meigs states that the small cavities so often seen in microscopical sections of the liver do not, of necessity, indicate fatty degeneration, but may be of a cystic nature. Wadsworth and Spiller report a case of tumor of the occipital lobe, causing atrophy of both optic nerves, a retinitis similar to that associated with albuminuria, spasticity of the legs, and epileptic convulsions. De Schweinitz and Steele report the recurrence of a melanotic sarcoma of the orbit five months after enucleation of the eye, and Eshner describes the symptoms in a case of carcinoma of the esophagus situated three inches from the stomach. J. P. Arnold gives an interesting description of a case of sarcoma in the mediastinum. Summing up he states that the subjective symptoms of such a condition are dry cough, dyspnea, moderate pain, palpitation and general weakness. The objective signs are cyanosis, enlargement of superficial mammary and epigastric veins, edema of face, neck, arm or leg, changes in form and size of thorax, displacement of heart, diaphragm, and liver, abnormal areas of immovable dulness with absence of voice, breathing and vocal fremitus, and a peculiar wheezing inspiration with a sinking of the upper part of the sternum during expiration. In addition are the various signs of pressure upon the mediastinal contents, viz.: aphonia, dysphagia, irregular pupil, unilateral sweating, cardiac irregularities, inequality of the radial pulses, etc. Riesman presented specimens taken from a lioness that had died of suffocation.

A Text-book of Materia Medica, Therapeutics, and Pharmacology. By GEORGE FRANK BUTLER, Ph.G., M.D., Professor of Materia Medica and Clinical Medicine in the College of Physicians and Surgeons, Medical Department of the University of Illinois. Third edition. Philadelphia: W. B. Saunders, 1899.

THIS is the third edition of Dr. Butler's book to appear since the original edition in 1896. We find a number of changes from the original copy, which bears out the author's statement in his preface that the book is thoroughly

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revised. Some of the changes are in accord with the criticisms of Dr. Butler's work made in the NEWS when the first edition appeared. The author, however, still refuses to recognize the employment of pilocarpin in eclampsia; he prints the same faulty pictures of dogs poisoned by strychnin; he gives no mention of the untoward effects of cocain when used as an anesthetic; he has amplified, however, several parts of the work which needed it, and has thereby improved it. He tells us now what it is that chloroform can do to the kidneys, but he still persists in attributing great respiratory irritation, even death, to ethyl bromid, without making any modification. When the first edition appeared we feared the book would be dangerous for a student. We confess somewhat to a change of heart; for three editions of such a book cannot appear unless there is something good in it for the student and practitioner. If Dr. Butler will continue to improve each successive edition of his book, as much as he has done this one, we do not doubt that he will eventually succeed in producing one that is above criticism. The publisher has done his full share in making the work attractive.

A Manual of Surgical Treatment. By W. WATSON CHEYNE, M.B., F.R.C.S., F.R.S., Professor of Surgery in Kings College, London; Surgeon to Kings College Hospital, etc.; and F. A. BURGHARD, M.D., M.S., F.R.C.S., Teacher of Practical Surgery in Kings College, London; Surgeon to Kings College Hospital, etc. In six volumes. Vol. II. Illustrated. Philadelphia and New York: Lea Brothers & Co., 1900.

THE second volume of this work carries out the promise of the first, a practical surgical help to the student, the practitioner and the specialist. As the authors state, only the salient points in pathology and symptomatology are given, treatment, however, being described in detail for each surgical subject considered. As we noted in reviewing the first volume, this is the kind of work which is needed. The ordinary text-book is a compendium of pathology and symptoms; this work is a good supplement to any complete work on surgery.

The present volume treats of deformities, and of the surgical affections of the tissues, the skin, the nails, the lymphatic system, the fasciæs bursæ and muscles, the tendons, the vascular systems and special aneurisms.

As an example of the manner in which a subject is handled, we cite, at random, that of "hammer-toe." A page and a half are devoted to its definition and pathology, followed by three pages of treatment. The treatment advocated for this condition consists of appliances, with illustrative cuts, tenotomy or excision of the head of the first phalanx. These operative measures are succinctly described. The after-treatment is then given in detail.

The entire subject of scoliosis is omitted in this volume, but, it is promised, will subsequently be taken up in the volume on diseases of the spine. We note, too, that Trendelenburg's operation for varicose veins is not mentioned. It is a measure which is in high favor with some surgeons. In justification, however, it must be said that the authors describe, as a rule, only such operative measures as have met with success in their own hands.

As a practical, handsomely illustrated work on surgery, which teaches surgical methods as they are applied in practice, including the preparation and after-treatment of patients, these volumes are undoubtedly destined to meet with unusual success.

BOOKS RECEIVED.

The MEDICAL NEWS *acknowledges the receipt of the following new publications. Reviews of those possessing special interest for the readers of the* MEDICAL NEWS *will shortly appear.*

THE PRINCIPLES OF TREATMENT AND THEIR APPLICATIONS IN PRACTICAL MEDICINE. By Dr. J. Mitchell Bruce. Adapted to the U. S. Pharmacopœia by Dr. E. Quin Thornton. 8vo., 614 pages. Lea Brothers & Co., Philadelphia and New York. $3.75.

A MANUAL OF SURGERY. By Dr. Charles Stonham. In three volumes. Vol. I., General Surgery, 343 pages. Vol. II., Injuries, 383 pages. Vol. III., 725 pages. 8vo. Illustrated. The Macmillan Company, New York and London.

IMPERATIVE SURGERY. For the General Practitioner, the Specialist and the Recent Graduate. By Dr. Howard Lilienthal. 8vo., 412 pages. Illustrated. The Macmillan Company, New York and London. $4.00.

THE AMERICAN YEAR-BOOK OF MEDICINE AND SURGERY. Edited by Dr. George M. Gould. In 2 volumes. Surgery, 560 pages. Medicine, 656 pages. 8vo. W. B. Saunders, Philadelphia. $3.00 per volume.

THE RETROSPECT OF MEDICINE. Edited by Dr. James Braithwaite. Vol. 120, 442 pages. Simpkin, Marshall, Hamilton, Kent & Co., London.

THE INTERNATIONAL MEDICAL ANNUAL. Synoptical Index to Remedies and Diseases. For the Twelve Years, 1887 to 1899. 8vo., 411 pages. E. B. Treat & Co., New York. $2.75.

THE INTERNATIONAL TEXT-BOOK OF SURGERY. By American and British Authors. Edited by Dr. J. Collins Warren and Dr. A. Pearce Gould. Vol. I., General and Operative Surgery. 8vo., 947 pages. Illustrated. W. B. Saunders, Philadelphia.

TRANSACTIONS OF THE AMERICAN OPHTHALMOLOGICAL SOCIETY. Thirty-fifth Annual Meeting. Hartford.

DIE OHRENHEILKUNDE IM KREISE DER MEDICINISCHEN WISSENSCHAFTEN. Dr. E. Bloch. 16 pages. Gustav Fischer, Jena.

DIE TECHNIK DER SPEZIELLEN THERAPIE. Ein Handbuch für die Praxis. von Dr. F. Gumprecht. Second edition. 8vo., 354 pages. Illustrated. Gustav Fischer, Jena. Seven marks.

THE SURGICAL DISEASES OF THE GENITO-URINARY TRACT. Venereal and Sexual Diseases. A Text-Book for Students and Practitioners. By Dr. G. Frank Lydston. 8vo., 1024 pages. Illustrated. F. A. Davis Co., Philadelphia, New York and Chicago. $5.00.

GYNECOLOGY. A Manual for Students and Practitioners. By Dr. Montgomery A. Crockett. Pocket Text-Book Series. 12mo., 368 pages. Illustrated. Lea Brothers & Co., Philadelphia and New York. $1.50.

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ORIGINAL ARTICLES.

THE SIGNIFICANCE OF EARACHE IN CHILDREN.[1]

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THE ear, I presume, has been more deliberately neglected by the average physician than any other organ. This unfortunate prejudice against this delicate sense-organ is traditional—it has been handed down from generations of our medical ancestors and was born of ignorance. It is not so very long ago that the medical profession encouraged the laity to believe that nothing smaller than the elbow should ever enter the external auditory canal. It is common experience to-day to meet with patients who come with fear and trembling to consult about their deafness, and who, before submitting to an examination, insist upon an assurance that such examination shall at least do no harm, if it does no good. This fear of being made worse was a fear encouraged by the doctor of but a decade or two ago, who, himself unable to examine and diagnosticate the patient's ear affection, covered up his own lack of knowledge by instilling in the mind of the patient the idea that the ear was an organ which to be touched was but to be injured. Many doctors at this end of the nineteenth century still tell their patients, or, more correctly, the little patients' parents, to pay no attention to the occasional earache, to the evident impairment of hearing, but to leave it to time and to nature and the disease and the deafness will be outgrown. There may have been some excuse for such advice a half, or even a quarter of a century ago, but there is none for it to-day.

Earache is of two very distinct varieties. The one is a neuralgia, when it is best spoken of as otalgia, and in character resembling the pain of a neuralgia in other parts of the body; the other is the pain or ache that accompanies inflammation—a throbbing, beating, steady pain without much intermittence. The neuralgic earache is usually caused by some trouble or disease external to, or quite remote from, the ear itself. The pain may be constant, but usually is sharp and shooting with intermissions of entire cessation. Pressure upon the nerve or disease of the sheath of the inferior dental, for instance, may cause pain in the ear alone. As you enter, with a probe, a cavity in a carious or decayed inferior molar the patient claps his hand to the ear. It is evidently a case of toothache in the ear, comparable with the classical pain in the knee in hip-joint disease. In children old enough to answer intelligently and in adults, if with an acute pain in the ear, there is no deafness, no fulness in the ears, no tinnitus, no redness or bulging of the drum, we have to deal probably with a neuralgic earache, the cause lying either in the teeth, especially of the lower jaw, or some disease of the larynx, such as tubercular or malignant disease, or an acute inflammation of the tonsils, pharynx, or tongue, or malignant and syphilitic disease of these parts. Tumors of the brain or Gasserion ganglion, disease in any part of the fifth nerve, a trigeminal neuralgia, may all occasion otalgia. A beginning furuncle in the external auditory canal, causing much pain but neither deafness nor tinnitus, may be easily overlooked.

The belief that earache in children is ordinarily neuralgic is so prevalent among the laity and, unfortunately, also in the profession, that the statement can be made with positiveness that in children earache is usually a result of acute inflammation of the middle ear and only exceptionally is it neuralgic. I have operated for mastoid abscess upon a number of both children and adults, in whom the earache had been regarded as a neuralgia and treated as such, the patient having been allowed to suffer the tortures of the damned for days, weeks, and in several cases for months, when a correct diagnosis and proper treatment would have obviated not merely all this pain, but, much more important, have prevented a permanent impairment of the hearing or even in one case have saved the patient's life.

The earache of an acute otitis media in a child will vary with the intensity of the inflammation, the age and the temperament of the child, a comparatively slight inflammation and little pressure in the tympanic cavity of one child throwing the patient into paroxysms of screaming or almost into convulsions, while a great amount of pressure with bulging of the drum may in another child occasion only a sense of fulness and discomfort without much pain. The Eustachian tube of an infant or young child is much shorter than that of an older one or of an adult, so that suppuration in the middle ear in young children, because of the easy passage of the discharge, mucus or pus, into the nasopharynx, may be accompanied by comparatively little earache, and without much if any redness or bulging of the drum membrane, the drum being merely opaque or lusterless, and so partly account for the fact that acute otitis media is readily overlooked even by the most careful physicians.

[1] Read before the Medical Society of the State of New York, January 30, 1900.

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Infants and small children do not locate the site of the pain in a very clear and satisfactory manner. The child may be simply restless, peevish, toss and roll the head a good deal, at times shrieking with pain either while awake or on waking from sleep. If carefully observed, however, the little sufferer will be seen to bore its head into the pillow on the affected side, try to raise its little fist toward the inflamed side of the head, or an older infant will rub the ear, indicating as best it knows how the seat of the trouble. Unfortunately, the little one's physician or nurse is not always observing and overlooks the fruitless efforts of the baby to make itself understood.

In children at the vault of the nasopharynx, and at, around, or even in the Eustachian orifices is a mass of lymphoid or tonsillar tissue. This tissue is exceedingly prone to acute and chronic inflammation of exactly the same kind as that of the faucial tonsils. A cold in the head in a child is commonly not an inflammation of the nasal mucous membrane but of this pharyngeal tonsil. If a child's throat be examined during an ordinary cold in the head it will usually be found that the nasopharynx is covered with a whitish, croupy exudate, exactly the same kind of an exudate we are familiar with in ordinary acute follicular tonsillitis. In measles, scarlet fever, and influenza colds, this pharyngeal tonsil is always involved. With this swollen mass of adenoids, inflamed and teeming with pathogenic micro-organisms, streptococci, staphylococci, or pneumococci, it is almost inevitable that the child's middle ears should be inflamed to a greater or less degree, and explains at once why children have so many more acute inflammations of the middle ear, so many more earaches than adults.

Remembering that the Eustachian tube, the cavity of the middle ear and mastoid form one continuous bony canal—a bony diverticulum from the nasopharynx—it is readily seen how the inflammation in even an ordinary cold in the head tends to extend to the middle ear; it is also seen how perfectly adapted the middle ear is for the harboring, for the incubating, for the growth and development of bacteria, and because of its magnificent blood and lymphatic supply, an ideal distributing center for bacteria or their toxin products.

The bony plate, the tegmen tympani, which separates the middle ear and cranial cavities, is often, even in adults, not much if at all thicker than tissue paper. In infants and small children it is still thinner, or may be absent, so that an abscess in the middle ear might perforate into the cranial cavity with less difficulty than through the drum. Cerebral irritation is exceedingly common in young children suffering from acute otitis media, and the actual extension of inflammation to the meninges, either through perforation or more commonly along the sheaths of the arteries, veins, or lymphatics, which extend from the middle ear to the brain through the squamo-petrosal sulcus, occurs so often that it has long been recognized, that the usual cause of meningitis in children is a suppurative inflammation of the middle ear, just as brain abscess in the adult is often a sequel of acute or chronic suppuration in the mastoid or middle ear. Without doubt some cases of fatal acute meningitis which many of us have seen could have been prevented and the life of the patient saved had the significance of the earache, which was the earliest symptom, been appreciated by the patient, by the parent, or by the doctor, such earache leading to an examination of the drum and to a proper treatment of the acute otitis media before an involvement of the meninges had taken place. The association in children and infants, of acute otitis media with the exanthemata, with cold in the head, and as a cause of acute meningitis has been well known.

Turning to other acute infantile diseases we find that that happens which should be expected from the anatomical peculiarities of the middle ear, especially with reference to its adaptability to the requirements of the favorable growth of bacteria. It is the experience of many physicians to have had a tentative diagnosis of pneumonia, of acute meningitis, even of typhoid fever, upset by the amelioration of all symptoms coincident with a discharge of pus from the ear. As before stated, in infants and small children, perforation of the drum does not occur with the same frequency that it does later in life. The pus finds its way more readily through the Eustachian tube into the nasopharynx, and then to the alimentary tract, or in inspiration the bacteria may be carried into the lower respiratory tract.

During the past two years much has been written, especially in Germany, upon the subject of unrecognized acute otitis media in infants and young children. The subject is one of great importance to the general practitioner because it is he, rather than the otologist, who is in a position to see these cases and it is all important that he recognize the fact that the middle ear is, during infancy, often the subject of purulent inflammation, complicating many other diseases, not simply the exanthemata, but other acute infectious and toxic diseases such as acute gastro-enteritis and bronchopneumonia. Hartman,[1] in 1894, called attention to the connection between acute otitis media and gastro-intestinal affections in infancy, stating that in the latter elevation in temperature and loss of weight should always demand an examination of the middle ears when it would generally be found that the tympanic cavities contained pus, and that with its evacuation through paracentesis of the drum, the temperature would drop, the disturbances in digestion cease, and the body weight increase. He regarded the gastro-enteritis as the result of resorption of the toxic poisons from the exudate in the tympanic cavity, rather than that the otitis media resulted from infection entering through the Eustachian tube during the act of vomiting. In a recent paper Hartman[2] reviews fully the subject of intestinal disturbances caused by otitis media, and reiterates the conclusions of his former paper, published five years ago.

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In 1897, Ponfick[3] published the reports of one hundred consecutive autopsies on children under four years of age, dying of various diseases, non-infectious and infectious. The vast majority of them, during life, gave rise to no suspicion on the part of the attending physicians that the middle ears were at all involved, in fact but ten were known to have had middle-ear disease. Of these one hundred, six children died of non-infectious diseases, *viz.*, two of congenital heart disease, one of extensive burns, and three of non-infectious dermatitis. Of these six children, five were found to have had otitis media. The remaining ninety-four were supposed to have died, four of erysipelas and furunculosis, six of diphtheria, one of scarlet fever, eleven of pneumonia, nine of meningitis, thirty-five of gastro-enteritis, sixteen of chronic tuberculosis, three of congenital syphilis, and ten of acute otitis media of which two complicated bronchitis. Of these ninety-four deaths, eighty-six were found on autopsy to have had suppurative or catarrhal inflammation of the middle ears. Of the thirty-five cases of gastro-enteritis, thirty-three had otitis media; of the eleven pneumonias, ten had pus in the middle ear; of the nine cases of meningitis, eight had otitis media; of the remaining thirty-nine cases, thirty-five showed otitis media—most of them with pus in the tympanic cavities.

Had this table of one hundred post-mortems been made up of deaths due to scarlet fever, measles, diphtheria and typhoid fever, the discovery that the middle ear was involved in 91 per cent. would not have been so astounding, but that the table is made up of deaths due to diseases not supposed to be complicated by otitis media is of the utmost significance and immediately the question forces itself, was not, in all probability, the cause of death of a very large number due to the unsuspected, unlooked for, untreated suppuration in the middle ear?

During 1896 and 1897 Barth[4] examined one hundred and twenty-six children under three years of age, suffering from other diseases, and found one hundred and sixteen, or 92 per cent., to have otitis media of greater or less severity—10 per cent. having required a mastoid operation. He states that of six hundred children sick with other affections and examined with reference to their ears, 80 per cent. showed otitis media. Meltzer[5] has investigated fully the relationship that exists between otitis media and bronchopneumonia anl lobar pneumonia in children. He shows very conclusively that if the ears be examined during bronchopneumonia, it will be the exception to find them not involved, and this corresponds with what we should expect. He has, during the past fifteen years, observed a great many cases of lobar pneumonia in children in whom the earliest symptom of the pneumonia is a severe earache on the affected side. This earache occurs at the beginning of the lung inflammation, gradually disappearing during the first three or four days of the pneumonia. He has never seen pus come from the ear during these cases, and thinks the earache due, not to an otitis media, but rather to a sympathetic pain, a neuralgic pain, in a drum already the seat of a chronic inflammation. His explanation of the rarity of suppurative otitis media in lobar pneumonia in contradistinction to bronchial, is, that in the former, hyperleucocytosis acts as a derivative on the otitis media, tending even to arrest and dry up the discharge, mucus or pus, if it previously existed.

E. H. Pomeroy[6] has recently and forcibly emphasized the importance of the general practitioner and especially the pediatrist recognizing the frequency of otitis media in cases of gastro-enteritis and bronchopneumonia, and the necessity of examining the drums in all cases.

At the time of writing this paper there were in the children's wards of the Women's and Children's Hospital in Syracuse twenty-two children under three years of age. Eleven were under six months, the youngest being five days old, and the remaining eleven were between six months and three years. Many were born in the Hospital and remain for care only, being considered in good health. I have examined the drums of all of them finding the examination perfectly feasible excepting in one case, that of a child one month of age, in whom the external auditory canal was so narrow that a satisfactory view of the drums was not obtained. In the cases of a child of five days and of another of two weeks, the view was perfectly satisfactory. In many it was necessary to remove with cotton or a small, dull spoon the epithelial scales which interfered with inspection of the drum. As others have observed, children and infants make almost no objection to the examination of the ears with the speculum, once the auricle is taken hold of preparatory to introducing the speculum. Of the forty-four middle ears which these children presented, twenty were normal, twenty-four showed otitis media to a greater or less degree, five with perforation of the drum with pus, nineteen without perforation or pus in the auditory canal. Of these twenty-four inflamed middle ears, but four were suspected or known to have otitis media—all of these being suppurative. Five of the children had gastro-enteritis, two having pus in the external auditory canal, one a catarrhal otitis media and two normal as to the ears. The one case of acute bronchitis was complicated by purulent otitis media. Three cases of bone tuberculosis showed two normal drums, one perforated drum with discharging pus and three of otitis media without perforation. These examinations are too few in number to have much significance and are offered merely because they tend to confirm other and larger reports.

Recurrent attacks of earache in children mean the presence of adenoids in the nasopharynx. The adenoids may be large, causing nasal obstruction, or they may be very small and not interfere at all with breathing through the nose, but repeated attacks of earache, repeated gatherings in the ear, repeated attacks of deafness accompanying colds in the head mean that there is in the naso-

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pharynx, in the neighborhood of the Eustachian orifices, some hypertrophied lymphoid tissue, large or small in amount, which is exceedingly prone to acute and subacute inflammation tending to extend to the middle ear. One attack of otitis media, catarrhal or suppurative, may be entirely recovered from without any loss of function, without any impairment of the hearing, but it is very doubtful whether several such attacks can take place and leave the ear in a normal condition both as to the present and the distant future. Each abscess in the ear means a perforation of the drum membrane, which may heal without leaving a visible scar or it may heal with a very large scar, or on the other hand it may not heal at all, but leave a perforation in the drum, exposing the middle ear with all its possibilities for ill for the remainder of life.

What is the final outcome with reference to the hearing in the case of these repeated earaches which occur during childhood? The great majority of persons, who in early adult or middle life awaken to the fact that their hearing is becoming impaired, are deaf or are surely becoming so because of a chronic catarrhal inflammation or sclerosis of the middle ear. I believe that in a large proportion of these cases the disease began in childhood when the patient suffered from adenoids, accompanied or not by large tonsils. I have traced back from early and middle adult life to childhood, by history obtained from the patient and by the indelible evidences remaining in the nasopharynx, in Rosenmüllers fossa and in the fauces, hundreds of cases bearing upon this statement. Let us assume for the sake of brevity and clearness a hypothetical case and follow the patient from his early childhood to middle life. At from three to five years of age, the patient develops adenoids, has repeated earaches, repeated tubal inflammations until a chronic otitis media, with deafness, increasing during colds, improving after their subsidence, becomes established. The adenoids probably cause nasal obstruction and consequent rarefaction of air in the nasophraynx and tympanic cavity. At about fifteen years of age, or at puberty, the adenoid growth begins to grow smaller through an increase of connective tissue, it becomes firmer and harder but smaller, and consequently lessens the nasal obstruction. At this same period, in the process of development, the nasopharynx becomes much larger, so that the adenoids, as a cause of mouth breathing become both actually and relatively less important. The patient now begins to breathe through the nose, the nasopharynx and tympanic cavities are better ventilated, the drum-head, which has been retracted, begins to assume a more normal position. The patient hears much better, has fewer colds in the head, earaches cease and he believes that he is outgrowing his ear trouble of childhood, as his physician predicted would be the case. This condition of improvement goes on for perhaps ten or fifteen years, when the patient again begins to have colds in the head, the nose becomes obstructed, not this time, however, because of adenoids, but because of a hypertrophic rhinitis. With these repeated colds in the head and with obstructed nasal breathing, the old, dormant, middle-ear disease, which had been quiescent for so many years, is revived and from this time on it proceeds upon its insidious and progressive course, the deafness increasing so imperceptibly that he is unaware of it until a buzzing or some form of tinnitus stirs him to a realization that there is something wrong with his ears and that his hearing is somewhat impaired. He is now thirty, forty or fifty years of age. He consults an otologist, who is compelled to tell him that his disease is essentially an incurable one, and that the most favorable prognosis is an amelioration of the condition, an improvement in the hearing through the benefit that follows the treatment and improvement of his hypertrophic rhinitis and nasal obstruction; but very often, too often, not a single hopeful word can honestly be said, either with reference to improvement in the hearing or arrest of the deafness. It is poor consolation to him to be told that there was a time, in childhood, when the disease could have been cured, or arrested, the hearing restored or deafness prevented, had its presence or its cause been recognized, had the warning of the recurrent attacks of earache and deafness been heeded, appreciated and properly treated.

In conclusion: (1) Earache in children is generally caused by acute inflammation of the middle ear, suppurative or catarrhal. (2) Infants and young children may have suppuration in the middle ear without giving satisfactory evidence of pain, or without rupture of the drum-membrane. (3) In the absence of other known cause of pain, from which a child is evidently suffering, the first cause to be thought of should be acute otitis media, and this calls for an examination of the drum-membrane. (4) It has been shown by examination of the middle ear during life and post-mortem, that purulent otitis media is nearly always present in acute infectious diseases of the gastro-intestinal and respiratory tracts in young children, especially in gastro-enteritis and bronchopneumonia, to which diseases it probably stands in a causative relation. (5) The cause of death in many acute and chronic infectious diseases, in meningitis and in the exanthemata is the result of unrecognized and untreated abscess of the middle ear. (6) Repeated earaches in children are ordinarily but a sign of acute exacerbations of a chronic otitis media resulting from adenoids. (7) In adult life, so-called catarrhal or progressive deafness is often but a final stage of the otitis media which had its beginning in early childhood when it was due to adenoids and practically curable.

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CASE OF PULMONARY TUBERCULOSIS SUCCESSFULLY TREATED BY DRAINAGE AND IODOFORM, WITH APPARENT RECOVERY.

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S. G., twenty-seven years of age, a colored school-teacher, presented himself at my clinic at the Post-Graduate Hospital March 1, 1899, and stated that for a few weeks he had been losing strength, and that a swelling on his right chest was constantly increasing in size. The swelling, which was situated below the right clavicle, was first noticed two months previously, as a small, hard and painless lump. No attention was paid to it, and it gave but little inconvenience, save only a gradual limitation of a backward movement of the right arm, until now, at the time of examination, this action was entirely prohibited by the enormous size of the swelling. It extended from the clavicle to below the nipple, and from the sternum to the axilla. It was easy to recognize that the pectoralis major muscle was in front of it. *Fluctuation* was very distinct, and not a member of the class hesitated to make the diagnosis of abscess—most probably of a tuberculous nature, even before the examination was completed. A slight cough began six weeks previously, and the patient's strength began to decrease; his weight lessened; his appetite became poor; he was thirsty, and had night-sweats. He had then a temperature of 100° F., a pulse of 100, and respiration was 26 to the minute. The expansion on this side of the chest was less than that on the left side. Vocal fremitus was increased, and a dull percussion note could be detected over the lung, extending from the nipple across the chest towards the spine and about four inches wide. The vesicular murmur was absent over this area. The apex and base of the lung gave signs of functional activity, although not entirely normal. The left lung and the heart were normal. The liver and spleen were slightly enlarged and the feet were swollen. An examination of the blood and urine did not reveal any gross abnormal condition. No tubercle bacilli were found in the sputum.

It was evident that the case was complicated and a serious one. The abscess was assuredly not the most serious condition, but it was that within the chest wall. He had always enjoyed good health previously. His father died of intestinal obstruction; his mother died of consumption. One sister died of "sweating disease," as he termed it, and he has three sisters and a brother living and well.

First Operation.—On March 4th chloroform was given and the abscess sac exposed by a long incision running parallel with the fibers of the great pectoral muscle. The contents of the abscess were curdy, having the appearance of tubercle tissue breaking down. The sac was very carefully dissected out, being ever on the alert for the primary focus. It was found that the third rib near the sternum was diseased apparently with tuberculous osteitis. The carious rib was thoroughly curetted with a bone scoop, the wound closed, drained and dressed. The contents of the abscess were sterile—no germs, living or dead, could be found in it. The microscopical examination of the tissue removed (sac and granulation tissue from the rib), although no germs were found, revealed most clearly tuberculous characteristics. The extirpation of so large a sac is a major operation. The patient stood it fairly well. Hemostasis was complete. During the operation the temperature rose from 100 to 102° F; the pulse count from 98 to 120 per minute, and the respiration from 20 to 24. It was interesting to observe the behavior of the body temperature. The general aspect of the man was that of shock, but the temperature had risen two degrees, whereas to be consistent with shock it should have fallen. The cause of this interesting phenomenon occurring in certain cases during operation is still unknown. It probably indicates some complication.

The next day the patient had a temperature of 103.5° F., pulse 130, respiration 27 and had rested well during the night. He looked so well and felt so easy that I judged him to be suffering from sapremia, and by the third day the pulse and temperature would come down to what they were before the operation. In this I was mistaken; the rapid pulse, high temperature and frequent respiration continued to alarm us for three weeks with but slight remissions. The wound did not suppurate and closed kindly, its secretions remaining sterile. In the meantime the consolidated portion of lung opposite the fifth rib in front became more and more tender to the touch, and the patient could not stand percussion over it. I thought that most likely an abscess had developed in the lung, and decided to deal with it surgically.

Second Operation.—March 25th, with the hope of finding a connection between the third rib, that I had found diseased, and the intrathoracic complication, I began the operation by exposing and removing two inches of it. My efforts in finding the least trace of extension of disease from the rib inwards were futile, whereupon I cut through the pleura behind sufficiently to admit my index finger. Although the apex of the lung had decidedly receded from the pleura, it felt soft, smooth, resilient, crepitant, and it expanded during inspiration. With the full length of my finger in the pleural cavity, and extending it backward over the supposed abscess, what I felt was dictated and taken down by one of my assistants, *viz.*: "I feel a large, hard, unyielding mass, completely filling the chest wall opposite the fourth and fifth ribs. Its surface is rounded, smooth, and delicate adhesions which are exceedingly easily torn and bleed readily are felt, attaching it to the parietal pleura. It is too firm to be an abscess, and too soft for the usual feel of a sarcoma. It seems to me that I could thrust

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my finger into its center. Let us explore it still further." After closing the wound in the pleura at this situation, I proceeded to remove two and a half inches of the fifth rib just in front of the mass within the chest. This being done, and cutting through the pleura here, I decided to pack the wound with iodoform gauze, after first suturing the surface of the mass to the parietal pleura, and then wait for a few days before going into it. It was ascertained by one of the interns by listening with a stethoscope that the base of the lung had not ceased performing its function during the operation. Within twenty-four hours the apex resumed its normal work and size.

Third Operation.—Being called from the city, I did not see the patient again for two weeks, during which time he continued to suffer, as before, from high fever, etc. I brought him before the class, and without anesthesia explored the diseased lung. An ordinary grooved director was cautiously pushed through the mass backward to the extent of four inches. Then a Kocher's director was inserted, and afterwards an artery forceps was used, after the method of Hilton, but not a drop of pus was found. With the view of thoroughly clearing up the diagnosis, I removed a substantial piece of the diseased lung and sent it to Professor Klebs' Post-Graduate Laboratory for examination. Being facilitated by the exploratory punctures and the space left by the removal of the tissue, I had no difficulty in introducing one dram of iodoform powder into the very center of what I now felt sure was a mass of tuberculous tissue. All this was done without pain or inconvenience to the patient. Iodoform gauze was firmly packed into the lung as a plug and the wound dressed.

Many as are the strange things that surprise us in our professional experiences, I shall never be loath to mention among them the marvelous change that occurred in this man's condition within the twelve hours after inserting the iodoform into the diseased lung. His temperature came down to 97° F., pulse to 80, respiration to 20, and he expressed himself as feeling better than he had for months. For three or four days thereafter, and also after the majority of treatments, he expectorated blood and particles of iodoform. Once or twice a week, for a period of five months and fourteen days, 1 dram of iodoform, either in the form of a powder or as an emulsion in glycerin, was introduced into the diseased portion of lung, a new part of it being selected each time, until the whole solid area had been perforated and medicated. This was done twenty-eight times in all, the dry powder being inserted twenty-four times and the emulsion only four times. When the emulsion was forced into the lung it caused great pain, furious coughing, and more or less shock; therefore, it was discontinued. The dry powder was inserted through the smallest size of Howard A. Kelly's cystoscopes, the distal end being made pointed. While the instrument was being passed through diseased solid lung tissue no pain whatever was felt, but just as soon as sound tissue was encroached upon, pain and uncontrollable coughing occurred. During the last three treatments no solid tissue could be felt, and they caused great distress, pain, and violent spasmodic coughing. Two of these I performed myself to find out if he could soon leave the hospital. At the end of three months the external wound was closing so rapidly that a short rubber drainage tube was inserted to allow of the treatment being continued. There was a little pyrexia, 99° F., and sometimes 100° F., up to July 8th, but after this the temperature remained normal. Under this date I find the following written on the history sheet: "Has had but a few night-sweats for three weeks, and these were slight; cough absent; appetite good; walks forty blocks a day; fever absent; weight 135 pounds, one pound more than he ever weighed, while on entering the hospital he weighed 119 pounds." It was very pleasing to observe from week to week the most excellent local and constitutional improvements that were being made toward recovery. On the 21st of July, Mr. W. C. Fuchs took two skiagraphs of him, with the instrument inserted into the lung its full length. At this time very little solid tissue was left which could plainly be seen in the radiograph. I am indebted to Drs. Cubbins and McCornack for the attention given to this patient, for notes made of it, and also for faithfully carrying out the treatment outlined. About the middle of April Dr. Jospeh M. Patton kindly examined this case at my clinic, and saw him again a few days ago.

Present Condition.—He performs all his functions as a man as well as he ever did. He has been working since he left the hospital. He weighs 134 pounds which is his normal weight. Since the cold weather has set in, an occasional hacking cough with no expectoration has developed, due, he thinks, to a cold. The condition of the lung as manifested by physical signs is, indeed, most surprising. It is true, he is scarred; the right chest wall is a little receding; slight flatness on gentle percussion is found, but not more than what is common with a thickened pleura. A friction sound, due to adhesion, can be heard, but over the very place where the dulness was greatest and consolidation thickest, a clear resonant percussion note is demonstrable and a beautiful vesicular murmur is present. I can find no evidence of tuberculosis in his lung.

The surgical treatment up to 1897 recommended for tuberculous phthisis is mentioned by Paget in his "Surgery of the Chest," as follows: (1) Injections into the lung tissue. (2) Operation for pyopneumothorax with perforated lung. (3) Operation for the arrest of profuse hemoptysis. (4) Resection of the diseased portion of the lung. (5) Incision of a tubercular cavity. He concludes this chapter by saying: "We have now reviewed the five methods of surgery which have at present been found possible for the treatment of tubercular phthisis; and we have found that two sets of cases where the surgeon may do most

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good are those of fetid pyopneumothorax, and those of large tubercular cavity with septic absorption."

In 1898 Dr. J. B. Murphy of this city recommended and carried out *artificial pneumothorax*. In the November number of the *Lancet* of the same year Norman Porritt recommended and also carried out artificial reduction of thoracic space.

Both these methods are advised to be carried out early without waiting for a cavity to form. The one collapses the healthy lung around the tuberculous focus, thus giving it rest, while the other collapses the chest wall on to the lung by removal of sections of ribs in front and behind. The procedure carried out in this case, as far as I can ascertain, has not been hitherto done by any surgeon. The diseased portion of lung is freely exposed by resection of a rib or ribs, as the case may demand, and kept in view while the treatment of direct introduction of iodoform into every corner of the diseased area is carried out as long as it is necessary to effect a cure. Thus attacking the bacillus in its den with a drug that prohibits its growth and stimulates functional activity of the surrounding tissues to throw out a more vigorous granulation tissue to overpower the primary bacilli, this is highly scientific. We are aware that iodoform is the best producer of granulation tissue of which we know, and granulation tissue is Nature's great germicide. Every determination of blood directed to the diseased part by the traumatism produced by the large blunt instrument cannot but have a beneficial effect by virtue of the properties of the blood itself. It must also be remembered that the relief of tension in the solid mass and the drainage of bad blood serum from it have a salutary effect.

Notes of the Case Since December 6, 1899.—The patient was retained in the hospital for observation on account of the pyrexia he manifested the evening of December 6, 1899. In five days, December 11th, his temperature (by mouth) was 96° F., pulse 80, and respiration 19. At 1:30 P.M. of the same day, temperature 100° F., pulse 92, and respiration 20. On this day and at this time (1:30 P.M.) Professor Edwin Klebs injected him in the arm with tuberculosis serum. In three and a half hours thereafter (5 o'clock P.M.) his temperature was 105.4° F., pulse 128, and he coughed so frequently and violently that the respirations could not be counted. This high fever was preceded by coughing, nausea followed by vomiting, and a slight chill. At the end of twenty-four hours the temperature was still 105° F., pulse 138, and respiration 56. During the night he rested fairly well, coughed very frequently and his breathing was labored. Moist crepitant râles could be heard here and there over the right lung. The flatness on percussion increased, urine was scanty (eight ounces in twenty-four hours by catheterization). During the next twenty-four hours his condition was critical; he was delirious, and unconscious most of the time. and had involuntary evacuations of urine and feces; pulse varied from 138 to 160, respiration from 36 to 60, and temperature from 101 to 105° F. From this time he began to improve, so that on the morning of the fourth day his temperature was 99° F., pulse 98, and respiration about 22, but varied and he was able to sit up in bed while an examination of the back was made. There was consolidation of the upper lobe of the right lung, tubal breathing, etc. Over the middle lobe, exactly where the large local tuberculous mass was treated by the iodoform, there was resonance on percussion and a normal vesicular murmur present. This proves the benefit of the treatment that was carried out in this case. The left lung was free from physical signs of an abnormal condition, except along a limited strip in the free border toward the sternum. The sputum contained no tubercle bacilli.

The serum verified the diagnosis of tuberculosis, but the reaction was so furiously dangerous that it nearly killed the patient. Here was a man whose tuberculous right lung was apparently cured by iodoform; no active focus could be demonstrated, but he had developed some fever. On the subcutaneous injection of tubercular serum he was prostrated to death's door.

THE AFTER-TREATMENT OF FRACTURES AND DISLOCATIONS.

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THE frequency with which fractures and dislocations occur both in the practise of the surgeon and the general practitioner and the functionally poor results obtained in many cases seem to justify a closer study of the causes of failure, as well as improved methods of treatment for the purpose of obtaining a more satisfactory result in every respect. Before proceeding further let me briefly summarize our present methods of treating fractures. After an immediate or later reduction of the displacement we apply either a temporary or permanent dressing. The former are represented by side, anterior, or posterior splints of wood, iron, cardboard, fiber, zinc, tin or wire, or the so-called molded splints of plaster-of-Paris, leather, felt, pasteboard, or gutta-percha. These temporary splints may serve as permanent dressings to which may be added silicate of soda, vertical extension, *e.g.*, of the femur in children (Schede) or horizontal extension (Buck's), or the double inclined plane.

In addition to these various forms of temporary or permanent dressings, treatment of fractures by massage has been used to some extent. By some surgeons the ability of massage to overcome swelling, stiffness of contiguous joints, and dryness and coldness of the surface, and atrophy of muscles, has been overrated, and has caused them to demand that we should treat every variety of

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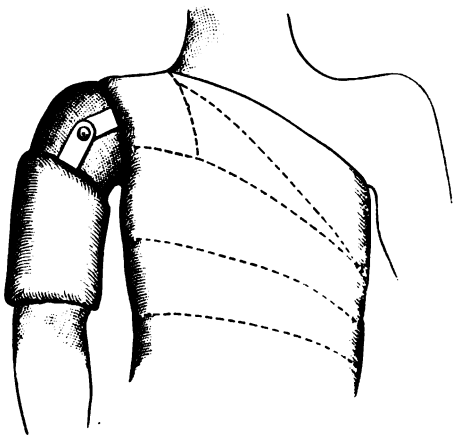
fracture by this method. It should, however, be limited to cases where the risk of displacement is slight, as in many fractures at the ankle, wrist and elbow, and of the fibula. It is often impossible to carry this out, as few surgeons can devote half an hour daily to the treatment of a fracture. The ambulatory treatment was strongly advocated by Bruns and others, especially for Pott's fracture and even for those of the femur and patella. The claim which has been made that there is a great saving in time and earning capacity is not borne out by recent statistics, especially

Fig. 1.



Splint applied to shoulder-joint.

those of Krause. There are in addition increased risks of displacement.

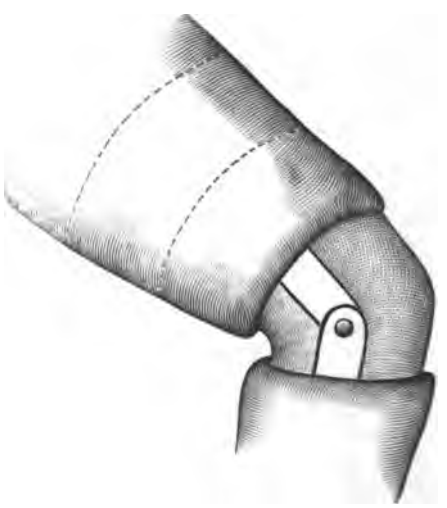
In the treatment of dislocations after the reduction the part is usually kept at rest for a period of two to three weeks, when light, passive motion is begun. Stiffness of the joints, especially those contiguous or distal to the seat of a fracture is a frequent sequel. It is most marked in the old and rheumatic or when sprain accompanies a fracture. The causes are injury of the muscles, edema and infiltration of the capsules and periarticular tissues. Very infrequently there is intra-articular effusion at the time of fracture with subsequent organization of the fibrinous masses and formation of adhesions. Change in the shape of the end of the bone from uncorrected displacement of a fragment or excessive formation of callus may also cause ankylosis. In dislocations we frequently have injury to the soft tissues and muscles around joints, in fact, the same pathological conditions favoring ankylosis as in fractures.

We have all had experiences of which the following is an example. A fracture of the elbow (supracondyloid) in which the arm was kept in a spline or cast for from four to six weeks showed, upon removing the dressing that there was atrophy of the muscles of the arm and forearm and complete limitation of motion, so that a change from the rectangular position in which the arm had been kept was accomplished with the greatest difficulty. For four weeks and sometimes as many months, repeated sittings, at which painful efforts at passive motion are made, had but little effect. The fracture itself will have united, there may be no displacement, but, alas, what is the functional result? This class of cases has interested me so much that I have made a special study of them.

In fractures contiguous to or into joints, we should pay as much attention to the function of the joint as to the fracture. We should not wait until forcible passive motion is necessary, for, as Stimson says, "this is harmful before the second month and even after that time it is far more likely to do harm than good." We create lacerations which require immediate immobilization in order to check inflammatory reaction and which in healing recreate the original or similar conditions. In fractures in which there is a possibility of the adjacent joint becoming ankylosed we should institute passive motion early, say after two weeks, very gently at first, being guided by the amount of inflammatory reaction which follows the manipulation. When the joint is accessible massage is of the greatest value.

Believing personally, however, that active motion by the patient himself is one of the best guides to the amount of exercise which such joints should have, I have applied the well-known mechanical principle of the hinge into casts, and after ten to fourteen days in such fractures, especially those of the elbow, shoulder and foot,

Fig. 2.



Splint applied to knee-joint.

I have encouraged the patient to make voluntary movements. This mechanism can be easily obtained by having a carriage-smith construct out of a strip of iron three-quarters of an inch wide hinged splints, one each for the outer and inner side of the joint as in the elbow or foot, or an anterior and posterior one, as in the shoulder. These are cheap and can be made for each individual case at a nominal cost. At the end of ten days, in a fracture of the elbow, for instance, the temporary splint is taken off. The arm, with the joint left free, is wrapped up in sheet

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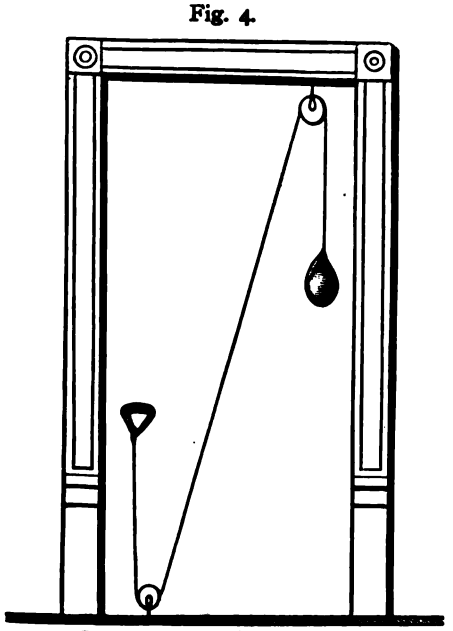
wadding, a single layer of plaster-of-Paris is applied, and the splints are held in place while other layers are laid over them. We have thus a jointed cast, and after a few days we may en-

Fig. 3.

Splint applied to ankle.

courage the patient to make active movements, which can be gradually increased, until at the end of the fourth or fifth week it is surprising how great the range of motion has become without any disturbance of callus formation or displacement. In dislocations and fractures, after removing the dressings, massage is an important factor in overcoming the tendency to ankylosis. If the means of the patient permit, I always refer him to a professional masseur who can devote half an hour to an hour to the case daily and in a short time accomplish wonders. Gymnastic apparatus are of the greatest assistance in over-

Fig. 4.



Home gymnastic apparatus.

coming ankylosis of the elbow and shoulder. The best for the purpose is the well-known Whitely exerciser or the inexpensive apparatus shown in Fig. 4, consisting of an ordinary pulley screwed into the door-frame, a piece of clothes-line, with handle, and a sack of salt or sand weighing from three to seven pounds. The sack of salt having been pulled from the floor by the patient, in falling causes the arm to be pulled down in a manner far excelling our manual manipulations. Massage, combined with faradic electricity, and hot packs or the hot air apparatus are of the greatest aid in overcoming the infiltration of the capsule and peri-articular tissues and the muscular atrophy, the so-called atrophy of inactivity, which invariably follows a fracture or dislocation. The massage, etc., may be beyond the reach of our poorer patients, but the apparatus which I have shown can be purchased for such a small sum as to be accessible to all. Our rule should be never to move a joint when it is still very painful and there are signs of reaction, but encourage as soon as possible active motion. If we follow these principles with proper variation for the individual case ankylosis after fractures and dislocations will be far less frequent, and the wage-earning capacity of our patients will be correspondingly increased.

INSTRUMENTS AND APPARATUS USED IN THE DIAGNOSIS AND TREATMENT OF GASTRIC AND INTESTINAL DISEASES.

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FIRST among the instruments to be discussed is the stomach-tube, of which there are several varieties, each of which has its admirers. There is the one closed at the end provided with two or three large apertures on the sides, the open tube of which the Ewald tube is a good example; and the open tube having rather a sharper edge to its end opening. It is essential, no matter what the physician's choice as to variety, that the instrument be soft and moderately flexible to insure against injury to the gastric mucous membrane. My own preference for general use is for the closed tube of Tiemann & Co. Its average length is about twenty-five inches, with a diameter less than three-eighths of an inch.

The uses of the stomach-tube as a means of diagnosis, are (1) for obtaining test-meals; (2) for determining fulness or emptiness of the stomach in the fasting condition, and (3) for obtaining small pieces of the gastric mucous membrane.

To introduce the tube three points must be observed. (1) When the point of the tube reaches the back of the tongue, command the patient to swallow, and take advantage of that instant to push the instrument on beyond the epiglottis. (2) Have the patient respire forcibly while the tube is in process of introduction, and, in new patients, all the time the tube is in the stomach. (3) Introduce it as rapidly as possible. If the gastric contents do not immediately appear in the

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test bottle, blow gently through the tube, which may possibly have sucked in the mucous membrane or be clogged with thick mucus or large food-particles. This failing, move the tube gently back and forth; it may be in too far, or not far enough. If the former be the case the tube curls up on the greater curvature of the stomach, and leaves the openings above the level of its contents. To withdraw the tube, close the external end with the finger, and pull it out quickly but gently. You may recover a sufficient amount of the test-meal in the tube alone for qualitative testings.

Vaseline on the tube or cocaine to the throat are unnecessary in introducing the tube; neither is there any need of using the finger as a guide.

The Stomach Bucket.—Many patients object to the tube, and in many its passage is inadvisable. Here the bucket has its field. The instrument is ovoid, of silver, open at the top; about one inch long by half an inch in diameter. It is attached to a silk thread, which has a knot about sixteen inches from the bucket (the distance from the patient's teeth to the stomach). The thread is looped over the patient's ear to prevent its passage into the stomach with the bucket. Before using, the bucket should be moistened inside and out with warm water, otherwise it will return from the stomach containing nothing but air. To introduce it, have the patient open his mouth wide; use a finger of the left hand as a guide, and with the right place the bucket far back in the throat. Have the patient swallow two or three times, if necessary. Once past the epiglottis, the instrument finds its way easily to stomach. Allow it to remain there for from three to five minutes. Conversation with the patient while the bucket is on its way helps its progress. On withdrawal, the first resistance will be noticed at the cardiac orifice; by gentle traction this may be overcome. Strong resistance is observed at the larynx. At this stage the patient should swallow, when, by a simultaneous pull, the bucket will pass up and out with no difficulty. A pull at this point without the patient swallowing might do damage. Sufficient contents may be obtained for qualitative testing; and quantitative acidity may be approximately determined by the dilution method. The entire procedure is painless and less disagreeable than the passage of the tube.

Esophageal Probe.—Various forms of this instrument have been devised. The best is of whalebone, in two sections or lengths, which screw together. The distal end is threaded, and to it are screwed different-sized hard-rubber ovoids, the principle being identical with bulbous urethral bougies. Its introduction is similar to that of the tube, except that it is not out of place at times to lubricate the bulb. It is of use in determining a narrowing of the caliber of the esophagus and cardiac orifice, and also in determining the presence of growths in these regions.

Gastrodiaphane.—Electric light has been introduced into the stomach for purposes of transillumination by several investigators. The greatest success has, I think, been achieved by Einhorn, whose instrument may be described as follows: It consists of an ordinary soft stomach-tube, to which is attached at the distal end, by means of a silver collar, a small incandescent lamp, connected by wires running through the tube to a battery. To introduce it the tube is moistened as is an ordinary stomach-tube, and passed into the stomach in the same manner. When inside the light may be turned on. A dark room or closet is necessary for this method of examination, and the abdomen of the patient must be exposed. The size and location of the stomach may thus be brought into view, also any growth situated upon the anterior gastric wall will be presented as a dark area in the zone of light.

Intragastric Bag Fitted with Intestinal Intubator.—This apparatus consists of a very thin rubber bag, the exact size and shape of the human stomach. A tube running along the lesser curvatures of the bag acts as a conductor for the intestinal intubator, while a second tube plays the part of an artificial esophagus, entering the bag at the left of the first tube. The instrument is introduced with the bag collapsed and wound around the two tubes. When it reaches the stomach the bag is inflated with air, or may be filled with water. To obtain the intestinal juice, the intubating tube, which is *very thick in proportion to the caliber of its canal,* is passed on through the above-mentioned conductor and enters the duodenum, whence the desired specimen is to be obtained. This apparatus can, with difficulty, be used outside of a hospital.

Gastrograph.—This instrument records gastric peristalsis upon a strip of paper on the principle of a "stockticker." The essential part consists of a hollow, metallic ball about five-eighths of an inch in diameter, made of two hemispheres screwed together. Inside this hollow sphere is a ball connected with the upper hemisphere by a non-conductor, so that it is insulated from it. This ball is covered with small metal spikes, radiating from its center toward the inside of the sphere, *but not touching it.* The apparatus is completed by a minute platinum sphere, which lies between the inner surface of the hollow sphere and the bristled ball. It is unattached and its every motion completes an electric circuit, which records as above stated. The hollow sphere is easily swallowed aided, if need be, by a drink of water. I believe that a stomach found to be empty in the morning, when the patient has had a sufficient meal the previous evening, certifies comparatively normal motility.

Gastroscope.—This is not a new instrument. It operates on the same lines as the cystoscope and has a broad field in the future, although many find objections to its use at present. It is, of course, straight and necessitates dorsal decubitus with the head of the patient dropped. Even then it is not easy to manage, and its use is exceedingly disagreeable to the patient. Naturally all portions of the gastric mucosa cannot be exam-

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ined. Its chief indication is in differentiating and determining early growths, provided they lie within its field of detection.

X-Rays.—This method is available for mapping out the size and location of the stomach. The method is to insufflate the stomach with bismuth, which is impermeable to the rays. A metallic capsule swallowed by the patient may be followed on its course, tracing the position of the intestinal tract by means of the X-ray apparatus.

Photography.—Intragastric photography, which was employed as long ago as ten years in Germany, has again come to the fore. The trouble with it is that the minute size of the plate detracts from its possible value.

Having mentioned the best-known instruments for diagnostic purposes, I will now speak of the question of treatment. Here, the tube again holds first place as a lavage apparatus. The simplest form in which it may be used is to attach a glass funnel, holding a pint or quart, to about four feet of three-eighths-inch rubber tubing, and connect this by a glass tube to an ordinary stomach tube, either open or closed. After the stomach-tube is introduced, as for obtaining a test-meal, attach it to the supply tubing. Lower and fill the funnel, raise it and continue pouring in water or the solution until the first *slight* sensation of fulness in the epigastrium is indicated by the patient's countenance; then lower it at once, and allow the stomach to empty itself. Repeat this operation until the return flow is clear.

In my office I use the following apparatus: A graduated supply reservoir holding two gallons is suspended in the same manner as Valentine's irrigator, having the advantage of being able to regulate the pressure of the supply-flow. The supply-tube is attached to the upper arm of the three-eighths-inch glass tube. The stomach-tube is attached to the single arm, and the waste-tube to the lower arm. Hence, by means of stop- or pinch-cocks, one can keep up a nearly continuous current of a desired pressure, and yet have both hands comparatively free, which is of advantage with an inexperienced patient. It is advisable always to have a waste-jar of the same capacity as the supply reservoir. The indications for the use of this apparatus are (1) removal of abnormal amount of mucus; (2) removal of stagnated foods; (3) stimulation of gastric glands; (4) happy laxative effect; (5) introduction of antiseptic and antifermentative solutions.

Intragastric Spray.—This is constructed upon the same plan as the ordinary throat spray. It consists of a stomach-tube fitted at the end with a spray-tip of hard rubber, and having running through it the small tube conducting the medicated fluid. This is attached to an atomizer supplied with two bulbs which give it a continuous spray. The indications for its use are (1) erosions; (2) achylia gastrica; (3) hyperchlorhydria.

Intragastric Electrode.—This is a small ovoid rubber capsule, perforated and containing a copper or brass electrode, to which is attached a wire to connect with the battery. The wire is enveloped in fine rubber tubing. About one-half a pint of water is introduced into the empty stomach, the electrode is then swallowed in the manner as is the bucket, except that the patient may aid its progress by drinking water, the latter being necessary to equally distribute the electricity. The circuit is closed by a flat abdominal electrode, or sponges may be used for this purpose. The galvanic or faradic currents may be used and with good results in (1) erosions; (2) achylia gastrica; (3) gastric atony; (4) hyperchlorhydria.

Gyromele.—This consists of a stomach-tube containing a flexible cable, to the distal end of which is attached a sponge covering a spiral spring. This sponge may be drawn into, or protruded from, the end of the stomach-tube. At the proximal end of the tube and cable is attached a "hand-piece," which makes it possible to very rapidly rotate the sponge in the stomach. The method of introduction is as for other instruments. The flexibility of the cable enables the revolving sponge to reach the different parts of the stomach. The indications for its use are (1) to clean off accumulated mucus; (2) to stimulate the mucosa; (3) to obtain cultures for bacteriological examination.

To F. B. Turck, who introduced the above instrument, belongs the credit for an apparatus constructed with the idea of alternately distending and contracting the walls of the stomach. The operation is termed by him "pneumatic gymnastics." The action is brought about by regulated air pressure. The instrument consists of two parallel attached rubber tubes of unequal caliber; the smaller and shorter one reaches only to the cardiac orifice, the larger and longer to the greater curvature. An air-tank or bulb is attached to one tube, a manometer for regulating the pressure to the other. As a rule the larger tube is used for the "inlet," although in more severe cases the smaller one carries in the air. Air may be drawn through a heated coil, thus using vapor, and here the *entire* mucous membrane derives the benefit of heat and moisture. In subjects with loosely closing gullet or relax pylorus, an intragastric bag is employed, the effect being practically the same as when the air is directly applied, the air acting also as a protector to an over sensitive membrane. Besides the happy effect upon the gastric musculature, both circulation and secretion are markedly benefited.

Powder Blower.—The latest intragastric instrument of which I am informed is the powder blower devised by Einhorn less than twelve months ago. It consists of a piece of rubber tubing not too soft and about twenty-eight inches long. At one end is attached an atomizer-bulb; the other end is fitted with a threaded, hard rubber tip, to which may be screwed the perforated capsules which contain the drug. They are of three sizes according to the amount of medication

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desired. A small spoon to fill the capsules accompanies the outfit. The method of use is to fill the capsule, attach it to the tubing and introduce it in the same way as the spray-tube. When it is in the stomach the hand-bulb is forcibly compressed a few times, and on examining with an X-ray apparatus the powder (bismuth) will be found equally diffused over the gastric mucous membrane. If the pharynx contains much mucus, it is well to smear a very little vaseline over the perforations, in order to guard against their being occluded by the above mucus. Good results with this instrument have been obtained in (1) gastric ulcer; (2) hemorrhage; (3) erosions; (4) gastralgia, and (5) in X-ray work as above stated.

Each of the above-described instruments has its field in the diagnosis and treatment of gastric and intestinal diseases. Many, however, of those paying special attention to this branch of medicine, as, for example, Leube, who is one of the most successful gastrologists, depend largely for therapeutic results upon the stomach-tube and lavage apparatus. There is, however, no question, but that the spray, electrode, and powder blower are productive of some of the very best results.

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CLINICAL MEMORANDUM.

TYMPANOMASTOIDITIS.

BY EMDON FRITZ, M.D.,
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TYMPANOMASTOIDITIS, as the name implies, is an inflammatory process which involves the tympanic cavity and the mastoid portion of the temporal bone. In comparatively few cases of inflammation in the tympanum is the mastoid invaded, or, if so, the symptoms produced are not of that degree of severity which warrant a diagnosis of mastoiditis. Implication of these bony cells, however, in a suppurative inflammation constitutes so serious a pathological condition that its possibility should always be kept in mind in treating infective diseases of the middle ear. Primary mastoiditis, due to traumatism, syphilis, tuberculosis, etc., will not now be considered. It is not improbable that in some cases where a diagnosis of this affection has been made, there had been at some previous time an inflammation in the tympanum involving the mastoid, and that the morbid process then originated had remained latent, until severe exposure, or some other cause, proved sufficient to awaken active inflammation.

In the class of cases now under consideration there is, primarily, either an acute otitis media, or a chronic suppurative inflammation of the tympanic cavity, which extends to the mastoid antrum and adjacent cells. Remembering the close anatomical relations between these cavities, it is surprising that the antrum ever escapes infection, when there is suppuration in the drum. The peculiar formation of the tympanum, in certain cases, and the arrangement of the mucous folds in the vault of this cavity are probably factors in determining the limits of the inflammatory process.

Acute non-suppurative otitis media is only important in its relation to mastoid complication as being an early stage of suppurative inflammation. Not until the imflammatory process has progressed to pus formation is there liability of serious implication of the mastoid. Acute inflammation in the tympanum, then, should receive prompt and efficient treatment, not merely for the relief of immediate symptoms and the restoration of function, but with a view to preventing a grave pathological condition which not infrequently leads to a fatal termination. Those cases of acute otitis media which develop in the course of some infectious diseases, such as scarlet fever, epidemic influenza, pneumonia, typhoid fever, tuberculosis, and syphilis, are generally purulent from the outset, and are attended with special danger of mastoid complication. Very often in these cases the site of primary infection is in the vault of the tympanic cavity where the reduplications of the mucous membrane and the large proportion of connective tissue are conditions most favorable to suppurative inflammation. The lower part of the tympanum may not be involved in this affection. In the early stage the folds of mucous membrane may be so congested that their increased size shuts off communication between the vault and that part of the tympanic cavity below the short process of the malleus, or, in certain cases, the formation of the parts may be such that inflammatory products find no passage from the vault downward into the lower cavity. The progressive accumulation of fluid in the vault increases the pressure and the gradually yielding membrana flaccida bulges outward into the auditory canal, sometimes completely overhanging the membrane below. If at this stage rupture occurs and free drainage is thus afforded, or if timely surgical interference secures the same result, and careful treatment follows, mastoid or intracranial involvement will probably be averted.

Chronic suppurative inflammation of the middle ear often follows the acute suppurative process. It is occasionally a manifestation of syphilis or tuberculosis. Whatever its origin, a chronic otorrhea should be regarded as a constant menace because of the possibility of infection of the adjacent parts within the cranial cavity, either directly or by way of the mastoid. Septic meningitis, sinus thrombosis, epidural and cerebral abscess, any of these intracranial complications may have their origin in neglected chronic suppurative diseases of the middle ear.

The causes, then, of tympanomastoiditis are primarily those which give rise to acute inflammation in the tympanic cavity, and chief of these is extension of a catarrhal inflammation from the nose and nasopharynx. Forcing fluid into the middle ear through the Eustachian tube in the improper use of the nasal douche, or by the worse

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practice of "sniffing" salt water and other solutions into the nasal passages is a fruitful source of middle ear inflammation. Infectious diseases as causes of acute otitis media have already been referred to. Among predisposing conditions adenoid vegetations occupy a conspicuous place. It has been estimated that more than half the pathological conditions met with in the tympanum have their origin in hypertrophy of the pharyngeal tonsil.

The most notable symptom indicative of mastoid involvement is deep-seated, persistent, dull pain, always worse at night, and, as a rule, limited to the area immediately behind the auricle. Sometimes the tip of the mastoid process will seem to be the most painful point. Very seldom patients conplain of pain in the temporal region. Tenderness on pressure is an important symptom; usually it is greatest directly over the antrum, but the tip of the process will, in exceptional instances, be found to be the most sensitive. Care must be exercised in eliciting this symptom to so direct the pressure that the auricle will not be disturbed, otherwise inflammation in the meatus may be the source of the tenderness which is attributed to the mastoid. If the thumb is placed close to the auricle directly over the antrum and pressure made backward and inward there need be no doubt on this point. Some patients seem abnormally sensitive about the ears, hence it is always well to compare the two sides. The thermometer affords little aid in diagnosis. The temperature seldom runs high, in fact, a normal temperature may coexist with extensive disease in the mastoid, especially in connection with chronic otitis media. Children, of course, show a higher range of temperature than adults. Swelling behind the ear is not a common sign of mastoiditis except in young patients. The cessation of discharge from the ear in connection with the onset of symptoms referable to the mastoid is an important diagnostic sign. The most reliable objective symptom indicative of mastoid involvement is the swelling or bulging inward of the upper and posterior wall of the bony portion of the meatus close to the membrana tympani. Clinical experience proves that before the periosteum at this point is pushed off by pressure from within, the antrum has been invaded. When this symptom and deep-seated tenderness over the mastoid are both found, a diagnosis of mastoiditis is fully warranted. It is not to be understood from this statement that without both these signs inflammation of the mastoid cannot exist, but, finding both, the diagnosis is certain. The following cases illustrate the salient points in diagnosis and treatment:

Case I.—A robust young man, twenty-two years of age, when first seen was suffering intensely with pain in the mastoid region, which had followed what was considered a simple earache, of a few days' duration. There was a scanty mucopurulent discharge. On examination it was found impossible to introduce the smallest speculum because of unusual edema of the auditory canal. There was pronounced tenderness over the mastoid, most marked directly over the antrum. His face bore the expression of extreme suffering. He had not been able to sleep for forty-eight hours, the pain being worse as night approached. It was useless to attempt to incise the drum membrane for it could not be seen. Examination of the other ear demonstrated the fact that he naturally had an unusually small external meatus and moderate edema was sufficient to nearly occlude it. The aural ice-bag was applied over the mastoid and a brisk saline administered. Ten grains of phenacetine were ordered to be given at bed-time, the dose to be repeated during the night if necessary. Diet to be liquid, patient to be kept perfectly quiet. He did not obtain any sleep; during the night the pain was rather less severe; tenderness over the mastoid not appreciably changed; the tumefaction in the canal seemed slightly lessened; discharge about the same as the day before; bowels had moved freely; patient seemed dull and apathetic. The ice-bag was continued and phenacetine ordered as before. Preparations were made to operate next morning if he showed no greater improvement at that time. He slept about two hours during the second night and the pain and tenderness were considerably less in the morning. Ice-bag was continued during the day and he slept several hours. From this time he made an uneventful and rapid recovery.

Case II.—A man forty years of age, of previous good health, had recently suffered a severe attack of influenza. While convalescing he was seized with pain in the right ear. I saw him four days later, when he complained of severe pain, deafness and distressing tinnitus in the affected ear. The drum membrane was much congested, especially above the short process where it projected slightly into the canal. Pain or tenderness referable to the mastoid region was absent. An incision was made through Shrapnell's membrane, from a point behind the short process, upward and through the cellular tissue and fold of mucous membrane of the vault, and the knife was then carried outward through the superior margin of the membrane and along the upper wall of the canal about a quarter of an inch. Frequent irrigation with warm bichloride of mercury solution (1 to 5000) was ordered, and in two days I found him free from pain and with a normal temperature. There was a mucopurulent discharge from the ear and he was instructed to come to my office daily for treatment while continuing the irrigation in the intervals at home. I saw no more of him for four days, when he returned complaining of pain, which I found was due to inefficient cleansing of the canal and consequent lack of drainage. A week later he returned with the statement that for two nights he had been able to sleep but little because of pain behind his ear. The discharge had practically ceased. He complained of nausea and dizziness. There was marked tenderness over the antrum and slight edema of the tissues behind the ear. He attrib-

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uted his present condition to the fact that three days previously, being lightly clad, he had driven a team all day in the cold. He was sent to the hospital for the night, and finding his condition worse next morning, notwithstanding the application of the ice-bag and the use of bromides and a saline purge, I decided on an immediate operation for mastoiditis. With antiseptic precautions the usual incision was made immediately behind the auricle, and after elevating the periosteum and retracting the soft parts the cortex of the mastoid was entirely removed with gouge and chisel. Proceeding through the bony structure beneath, as the antrum was approached, there was appreciable congestion and softening, and a small quantity of pus welled up in the blood when the gouge broke into this cavity. All granulation tissue having been curetted away, bichloride of mercury solution was syringed through the antrum into the tympanic cavity, some of it finding an exit through the opening in the drum membrane. The auditory canal and the wound were loosely packed with iodoform gauze and the ordinary aseptic dressing applied. The patient made a most rapid recovery without an untoward symptom.

Case III.—A young woman of twenty-five, never strong, debilitated from overwork, contracted a severe cold followed by a sore throat and in a few days her right ear began to ache. As a child she had been subject to recurring attacks of earache, usually followed by a discharge. For years her hearing had been impaired. I saw her on the second day of the present attack when she complained of pain in the ear and deafness, which was the more annoying because the ear now affected had, until this time, been the better one. Examination revealed moderate congestion of the drum membrane, most marked in the lower half. There was no bulging. She was sent to bed, and a saline cathartic prescribed, after the effect of which one-fourth grain of morphine was to be given. An attempt was made to use the artificial leech in front of the tragus, but as the patient showed signs of swooning only a little blood was drawn. Dry heat was applied by means of the hot water bag. Next day she sent a message that she was better. Instructions were given to keep her quiet and continue liquid nourishment. I did not see her until the following evening when I was told that pain had returned the night before and that she had slept very little. Her temperature was now 101.5° F. The drum membrane was deeply congested and bulging slightly near the posterior periphery. With antiseptic precautions a free incision was made in the most prominent part. Bleeding was encouraged by warm antiseptic irrigation which was repeated at intervals to keep the canal and opening into the drum free. Phenacetine was prescibed in five-grain doses every half hour until three were taken, if necessary, for the relief of pain and restlessness. During the following week her condition was variable. The discharge from the ear, never copious, gradually diminished, but when she became tired, in the after part of each day, the pain would return and she would only sleep under the influence of drugs. Her general condition was bad. Efforts were made to stimulate her appetite and to secure rest by excluding sympathizing friends from her room. She seemed to be gaining some when I was unexpectedly called away and did not see her again for ten days. I then found her suffering continuous pain in and behind the ear. She had not slept, except for brief periods, for several days and nights. The mastoid was very sensitive to pressure over its entire area. Otoscopic examination revealed a swelling or bulging inward of the superoposterior wall of the bony portion of the auditory canal from the membrana flaccida outward. Her temperature was 102° F., pulse 130. She was sent to the hospital immediately and an operation was done the next day. As soon as the cortex of the mastoid was removed, the bone beneath was found to be soft and congested. Having reached the antrum, in using a sharp spoon to remove softened tissue in its vicinity, there was a sudden gush of venous blood which was renewed whenever pressure was removed. The wound was tightly plugged with sterilized gauze, and a firm compress of the same material applied, the operation necessarily ceasing at this point. There was very little subsequent bleeding. The temperature and pulse gradually declined, and she had a good night's rest. The dressing was not removed until the fifth day, after which the wound was cleansed daily and loosely packed. It granulated rather slowly, but the patient made a good recovery and was discharged four weeks after the date of operation.

These cases have been selected because each one fairly represents a certain type. For the purposes of this paper I have thought it better not to report exceptional clinical experiences. More complicated cases, however interesting in themselves, do not as well serve the purpose of illustrating essential points in diagnosis and treatment. In Case I, by prompt measures mastoid inflammation was aborted in the congestive stage. In Case II the site of primary infection was in the attic of the tympanum, and but for severe exposure mastoiditis would have been averted by the means adopted. The subsequent history is typical of extension of acute suppurative inflammation from the drum to the mastoid. Case III began as an acute non-suppurative otitis media. The conditions were such that the disease progressed to the suppurative stage with subsequent implication of the mastoid. The wounding of the lateral sinus during the operation demonstrates the possibility of this accident while keeping rigidly within what are perfectly safe limits in the vast majority of cases. It happens in quite a percentage of operations but does not necessarily interfere with their success, if properly managed.

Application for Otalgia.—Politzer recommends morphine ointment, vesicatories or galvanism, the positive pole to the ear and negative to the neck.

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MEDICAL PROGRESS.

Puerperal Infection.—According to A. M. Cartledge (*Obstetrics,* Feb., 1900) the infection atrium of a lacerated cervix is by far the most frequent site of the implantation of septic germs in puerperal infection. The staphylococcus tends to localize with abscess formation, and may be easily overcome by cleansing and drainage; but the streptococcus spreads rapidly by the lymphatics, and soon produces a general septic condition. Fortunately, however, this often spares the tubes and ovaries. In most of the fatal cases death takes place before the formation of abscesses. The indications are early curettage, irrigation, and drainage, and if these measures are not successful, one must, as a last resort, perform vaginal hysterectomy.

Modified Inguinal Colotomy.—R. C. Bailey (*Brit. Med. Jour.,* Feb. 24, 1900) presents a successful modification of the ordinary inguinal colotomy. A two-inch incision is made perpendicular to a line from the umbilicus to the anterior superior spine of ilium at the junction of its outer and middle thirds. The sigmoid loop is then pulled up, its proximal limb sutured all round into the external oblique muscle. A second incision down to the external oblique aponeurosis, parallel to the first and about two inches nearer Poupart's ligament is then made, and the two wounds connected by blunt dissection. The bowel is now pulled down to the second incision and sutured firmly, and the skin wound of the first incision closed. The bowel can be opened according to indications. A light pressure pad may be worn over the subcutaneous portion of bowel to obtain perfect control over it.

Rheumatoid Arthritis.—B. C. Loveland (*N. Y. Med. Jour.,* March 3, 1900) describes the ordinary symptoms and deformities of rheumatoid arthritis, drawing attention to the partial luxation of the phalangeal joints and the characteristic ulnar deflection of the fingers. He sums up the treatment which he has found successful in many cases under dietary, hygienic, including hydrotherapeutic, and medicinal. By dietetic means the patient's blood, urine and digestive ability should be improved as much as possible. Meats should be used once or twice per day. Green vegetables should be used freely. The amount of water to be drunk should not be less than three quarts in twenty-four hours, and tea and coffee should be forbidden. Sweets and acid fruits should be avoided. Under hygienic methods, he suggest moderate exercise, massage, Swedish movements, electricity, packing, sweating, and cool tonic baths. The medicines most useful are the alkalies, most prominent among which are salicylate of sodium and iodide of potassium. The former, when combined with benzoate of sodium, five grains each, given in a glass of water three times a day, may be continued for as long a time as necessary. Where disorganization of the joints has not occurred, a perfect cure, not necessarily a permanent one, will oftentimes result.

Regeneration of Male Urethra.—G. Ingianni (*Deut. Zeit. f. Chir.,* vol. 54, p. 227) has proved by numerous experiments that the male urethra can be reproduced within a reasonable limit. If there is a failure of the normal urethra for a considerable distance, either as the result of injuries, or by reason of operation, for example, amputation for carcinoma, the remaining cavernous and epithelial tissues will grow to make good the defect. A catheter was kept in place to insure the patulence of the new canal, and along it the blood vessels of the cavernous tissue sprouted, while the mucous membrane of the urethra grew outward along the catheter, first in a single layer of epithelial cells, but afterward in many layers. The growth of the cavernous tissue attained its maximum in thirty days, but ceased entirely in sixty days. It was not due to inflammation, but was stopped early if the latter was present. No regeneration of muscular tissue was observed.

Scarlatinous Sore Throat.—Cultures from the throats of over 300 patients with scarlet fever and scarlatinous sore throat have been examined by W. J. Class (*Jour. Am. Med. Assoc.,* Feb. 24, 1900) who reports the results obtained. Of this number 212 were cases of scarlet fever and 88 were cases of angina without any skin lesion, or at least only a perceptible trace. The microorganism previously described by him as the specific scarlet fever germ was found in the primary throat cultures of all 300 cases. In 80 cases the different germs composing the throat cultures were isolated and the "diplococcus scarlatinæ" obtained in pure culture in each. This diplococcus is always present, but in greater numbers when the culture is taken from a scarlet fever throat on the first or second day of the disease. As showing the connection between scarlatinous anginas, or throat lesions identical with those found in typical scarlet fever but without the eruption and scarlet fever, the writer reports three cases in detail in which other evidence, in addition to the presence of the same germ in each, confirms the relationship. In a number of experiments with pure cultures it was found that the blood from a person, who had had scarlet fever, had an inhibitory action on the growth of the diplococcus. Four mice were also used for experimental purposes. Two of the mice received each a subcutaneous injection of five minims of blood, taken from a person who had recently recovered from scarlet fever. All four mice were then inoculated, each with five minims of a solution of a virulent culture of the "diplococcus scarlatinæ." The two mice which had not received the blood inoculation died within eighteen hours, while of the two which had been injected with the blood one lived forty and the other seventy-two hours. The writer's reasons for believing that his "diplococcus scarlatinæ" is the cause of scarlet fever are: (1) The germ is invariably present in the throat secretions, blood

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and scales of a patient having scarlatina, and it is a separate and distinct organism not heretofore described; (2) it has been proven to be a pathogenic micro-organism, killing mice, when injected in minute quantities, in from less than one to twenty-four hours according to its virulency; (3) it produces, in swine, a disease the macroscopic lesions of which closely resemble those seen in scarlet fever as it occurs in the human subject; (4) the presence of blood from a patient who has just recovered from an attack of scarlet fever inhibits its growth; (5) the subcutaneous injection of a virulent culture into guinea-pigs will, under certain conditions, produce a nephritis; (6) the experiment quoted in this paper apparently shows that the blood serum of a person who has passed through scarlet fever protects an animal against the invasion of the germ.

Treatment of Typhoid.—During the past few months much has been written about the uselessness of milk diet during the course of typhoid fever, many reports being made of cases receiving solids throughout the disease as routine treatment. C. E. Page (*N. Y. Med. Jour.*, March 3, 1900) argues strongly, however, for an almost complete restriction from even milk diet, believing that the digestive system is unable to assimilate even that amount of food, as a rule, and that by increasing fermentative processes leads to tympanites, diarrhea and autointoxication. He claims that there is no danger of starving a fever patient and that forced feeding is very harmful. He allows large quantities of cool soft water to be drunk, from eighty to one hundred ounces in twenty-four hours, and besides this uses hydrotherapeutic procedures of various kinds. When large quantities of cool water are drunk he finds the invaluable cold bath treatment less often needed and frequently succeeds in allaying disagreeable symptoms and in lowering the temperature by the use of the "damp bandage." This consists of towels wrung dry from cold water, frequently changed and covered by dry towels. Among other valuable means of relieving symptoms he mentions the full cold-water enema as a "nutritive enema," pouring of pitcherfuls of cold water over the patient's head, the narrow cold compresses over the spine, cold compress, massage for the chilly symptoms when the temperature is high, and sponge-bathing. He lays great stress on the value of hydrotherapy in typhoid and believes that when thoroughly and intelligently used the indications for drugs are greatly decreased and the mortality markedly lessened.

Bacteriotherapy of Ulcer of Leg.—In spite of the large number of methods in vogue for the treatment of this affection, Ivan Honl of Prague (*Wiener klin. Rundsch.*, Feb. 4, 1900) describes his own with which he has had a large amount of success. The cases treated numbered 100, all of them carefully picked out of a large mass of cases for their severity. The basis of the treatment is in the application of substances obtained by extraction from the body of the *bacillus pyocyaneus* to the ulcer. The writer does not mean to assume that these ulcers are necessarily due to the germs in all cases, but they are nevertheless responsible for the chronicity and many of the complications of the affection. The cause of the failure of the many kinds of antiseptic applications used may be said to be due to the fact that these germs are not reached by the antiseptics in question, but lie hidden under the scabs and scales of the skin. In all cases which were treated by the extractions derived from the pyocyaneus a remarkable cure was obtained. The method of preparing this pyocyaneus-protein is as follows: The fluid nutrient cultures of the germ have upon their surface a fairly firm skin, a greenish or yellow-green coloration of the fluid also being observed. This culture is prepared by the Buchner method for the extraction of the protein. After successive fractional sterilization, there is obtained a dark-green, slightly alkaline, badly smelling fluid which easily loses its transparency. Its action on the healthy body is practically nil. This fluid is used in the treatment of the chronic ulcers. The patient is to lie down and from time to time bathe the diseased extremity in lukewarm water. The protein is applied twice daily by means of absorbent gauze soaked in the fluid. This is held in place by the proper dressing and the leg allowed to rest. In the 100 cases in which his treatment was used, all were healed definitely and absolutely; no other therapeutic methods were used. There has existed an idea that the protein substances are identical with the toxic bacterial products, but this view, Honl holds, is entirely erroneous. The only effect noticeable after application of large quantities of the protein is a slight swelling at the point of application, due to the presence of large numbers of leucocytes; no constitutional effect whatever follows. The effect of the toxin on the ulcer is evident within twenty-four hours. The secretion of the ulcerating surface markedly diminishes and the new epithelial surface soon makes its appearance. From this stage on the healing process is rapidly consummated and the ulcer is cured.

Santonin in Epilepsy.—After citing the ills of surgical treatment for certain epilepsies, bromide treatment for other epilepsies, with the attendant acne of the skin and degeneration of the mind produced by this method, G. F. Lydston (*Therap. Gazette*, Feb. 15, 1900) offers as a substitute for this class of drugs a remedy quite as efficient as a palliative and perhaps more so as a curative measure. This substitute is santonin. The author disclaims priority in its use, but says that he has used it in the treatment of epilepsy for nearly twenty years, and as yet has never seen it mentioned by any other author. His attention was first directed to the value of santonin in spasmodic affections of children, in whom he has seen it given indiscriminately for spasms whether due to "worms" or not and with whom it was uniformly successful. As a result of his long expe-

rience with the drug he has proven to his own satisfaction (1) upon the average, epileptic patients show better results under santonin than under the bromides; (2) santonin acts well in cases in which the bromides for one reason or another are not at all tolerated; (3) santonin gives distinctly beneficial results where the bromides fail altogether; (4) santonin is free from injurious effects which cannot be said of the bromides. Thus, there is no resulting melancholia, mental hebetude, profound nervous and circulatory depression and disfiguring eruptions. Whatever disagreeable effects santonin may have are not severe, as a rule, and are transitory. If santonin is given, as the text-books on materia medica prescribe, only disappointment can result. Lydston begins in the adult with a dose of from two to five grains. As its taste is not disagreeable he gives it uncombined. The dose is then gradually increased up to the point of tolerance. This he finds to be in many patients as high as twenty grains thrice daily for some weeks. As a rule, the dose is gradually increased to fifteen grains three times a day or possibly four times. The peculiar twitchings about the mouth said to be characteristic of santonin have not occurred in the adult in his experience. The most important clinical feature of the use of the drug is the yellow coloration of the urine accompanied by painful micturition and varying irritability of the kidney. This shows at least that caution in the use of santonin should be used. Idiosyncrasy must be guarded against. In some cases the combined use of bromides and santonin may be desired. A large dose of the bromide is then given at bedtime. The alternate use of santonin and bromides is often of great service.

Schott Treatment of Cardiac Disease.—N. Neesen (*N. Y. Med. Jour.*, March 10, 1900) describes the methods of treatment which are pursued at Nauheim in order that compensation for cardiac lesions may be induced without the aid of drugs. The treatment consists principally of baths and exercises, so regulated that they tend to strengthen the heart's action, having an effect very similar to that of digitalis. The systole becomes stronger and sharper and the diastole longer. In cases of bradycardia, however, the pulse-rate is increased. The baths have all gradations of strength from the weakest (one per cent. of salt) to the strongest (the flowing carbonic-acid baths). The exercises are really resistance movements adapted to the weakest or the strongest patients and given by experienced operators. These are similar in theory and effect to the long used hill-climbing methods for causing hypertrophy of the heart. Professor Schott explains the effect of the baths by supposing that the salt and carbonic acid in the water stimulate the terminal nerve-filaments in the skin, the impulse being carried to the nerve-centers and resulting in an inhibition of the circulatory nerve apparatus. Baths given too long or of too great strength may have a marked weakening effect and should be avoided. It is claimed that all valvular lesions and myocarditis cases may be benefited, but aortic stenosis and insufficiency and initial insufficiency are the ones which are best treated by these methods.

Hemisystole.—Clinical and experimental evidence has led many observers to speak of the occasional absence of synchronism on part of the contractions of one ventricle as compared with the other and the term hemisystole has been applied to this condition. O. Frank and O. Voit (*Deutsch. Arch. f. klin. Med.*, Bd. 65, Hft. 5 and 6) as a result of improved experiments of their own doubt if such a phenomenon ever occurs. Bent catheters were inserted into both ventricles of the hearts of living rabbits and dogs in curare narcosis. Other catheters were introduced into the carotid artery and all instruments connected with manometers which allowed of the registration of the curves. After some of the animals had been partially asphyxiated and others poisoned with helleborein the curves were compared, but no material differences were noticed between the time of the contractions of right and left ventricles. Certain minor aberrations could easily find their explanation in the valvular insufficiency which was present, owing to the abnormal conditions the animals were under.

Lumbar Puncture in Chronic Hydrocephalus.—A. Graber (*Münch. med. Woch.*, Feb. 20, 1900) has seen a cure follow the systematic use of lumbar puncture in one case of chronic hydrocephalus, and a slight, but persistent, improvement in a second. He also noticed that whenever the pressure of the contained fluid was allowed to fall below 100 mm., marked temporal headache and even clonic convulsion were the result. The fluctuations in the level of the fluid during crying or strong expiration could also be well observed. The latter may be ascribed to the stasis of the blood in the veins with expiration and its easier flow back to the heart with inspiration. The fluid was perfectly clear except in a few cases where pure blood was drawn; this, most likely, was due to injury of the subdural and pial veins.

Operation for Fractured Spine.—R. Abbe (*Med. Record*, March 3, 1900) says that operation in cases of fractured spine presents little danger to the patient and causes sufficient improvement to justify the procedure. This improvement may not consist in restored motor power, but in relief from symptoms of persistent meningeal irritation, relief from girdle pains and muscular twitchings, and in an improved vasomotor condition of paralyzed parts. This operation is as logical as that for depressed fracture of the skull. His method of laminectomy which is simple, comparatively bloodless and efficient, is as follows: Cocaine anesthesia preferred; a six-inch incision is made just to one side of the spinous processes and is carried down to the laminæ, between the spinous processes and muscle; the tips of the spinous processes with the interspinous ligament unbroken are separated by cutting pliers; the

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muscles on each side are dissected away from the laminæ which, with the bases of the spines, are removed as freely as necessary with rongeur forceps. The immediate signs and symptoms of fracture paraplegia give fairly accurate data for prognosis. If loss of sensation and motion and knee-jerk is instantaneous and complete, the outlook for recovery is almost hopeless. Partial loss of these functions renders a large degree of recovery probable, the cause in such cases being mostly hemorrhagic. Return of motion in cases of complete paraplegia does not always go on to perfect restoration. Wrist-drop or dragging of the foot may persist. In cervical fracture it is usually the fifth vertebral body involved, and this leaves only the diaphragm as a respiratory muscle, innervated by the portion of the phrenic derived from the third and fourth cervical nerves. These cases within a few days develop pulmonary edema and hypostatic pneumonia. Intestinal fermentation with febrile disturbance also frequently occurs in these high fractures. Regeneration of pulpified cord is impossible. Restored function is due to absorption of blood and inflammatory exudate relieving the pressure. Persistent bone-pressure at the site of injury causes increased cord-degeneration and therefore justifies operation. Laminectomy should be done early, and is less painful before meningitis occurs. A radiograph will determine if bony pressure exists.

Resection of Intestine.—The interesting and important question, How much intestine may be resected with safety? has been answered by O. Kukula (*Arch. für klin. Chir.*, vol. 60, p. 887). He has collected the notes of forty published and unpublished cases in which more than a meter of small intestine was resected, or a considerable portion of large intestine, usually a third or more. The amount of small intestine resected varied from 3 feet 3 inches, to twelve feet. The patient who lost the largest amount did not survive, but one who lost 11 feet of small intestine, mostly ileum, did survive and a year later was in perfect health. Chemical tests made to determine his digestive powers showed that they did not in any way fall short of the needs of his body. In thirty-one cases the resection was of small intestine chiefly. Nine of the patients so operated upon died, a mortality of 29 per cent. As no less than seventeen of the resections were done for gangrene, and several of the patients either had peritonitis or were otherwise in bad condition at operation, this mortality is not very high. It was certainly not due to the length of the intestine resected, for of the fourteen patients in whom the resection amounted to more than five feet, only two died, one in collapse and the other of starvation three weeks after the operation. In the case of the latter patient the ends of the intestine were not brought together, as ought always to be done, but a fecal fistula was left.

Six of the nine patients from whom a considerable part of the large intestine was removed died. Four of the six were septic at operation. Analogy, experiments upon animals, and the results of operations on men, have led Kukula to the conclusion that if a patient is in good condition, and the technical difficulties of the operation are not too great, any amount of the large intestine may be removed without risk of permanent damage. He is unable to say just how much of the small intestine may be removed with safety. Animals sustain without future trouble a loss of three-quarters or even more of the small intestine. Certainly in man a half may be removed if necessary. As the length of the small intestine is not known and as it varies much in different individuals, the only safe rule is for the surgeon to estimate the length of the portion which he expects to leave, as well as of that which he expects to remove, before he begins his resection. If he leaves as much as he removes, he need have no fear that the patient will die of starvation. The capacity for assimilation of the portion of small intestine remaining seems to be increased after these large resections, and, further, the large intestine takes on a part of the functions of the small. The well-being of the patient can also be improved by allowing him to take easily digestible food at rather shorter intervals than was the custom before operation.

Acute Pancreatitis.—A case of pancreatic inflammation with unusual symptoms is reported by H. Doerfler (*Münch. med. Woch.*, Feb. 20,) 1900). The patient, after an indigestible meal, experienced the most intense lumbar pain which radiated to both thighs and rendered all motion impossible. Several days later fever, rapid pulse, dyspnea and cyanosis developed. The gastric symptoms were only slight, no tenderness was present over the abdomen, but constipation was absolute. It was only when a high percentage of sugar was detected in the urine that the diagnosis could be made. The post-mortem examination showed the pancreas to be the seat of an intense hemorrhagic infiltration. A peculiar condition was seen in the large intestine; the ascending and transverse colon appeared enormously distended, while the descending portion was perfectly empty and flaccid, just as if there had been some obstruction in the gut. This phenomenon the author explains by pressure of the swollen pancreas on certain nerve-plexses which supply the upper colon, thus leading to its paralysis.

Iron in Anemia.—Much has been written of late in regard to the comparative values of organic and inorganic iron, and numerous preparations are being pushed on the market claiming to be of a most absorbable nature and yet entirely uninjurious to the digestive tract. G. M. Linthicum (*N. Y. Med. Jour.*, March 10, 1900) reviews briefly the physiological experiments and the clinical effects which prove indisputably that iron in some form is the essential and the specific in the treatment of anemia, and he believes that inorganic iron is the most efficacious. A desir-

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able preparation of iron must meet, however, several requirements. It must be insoluble when administered so as not to injure the teeth; it should not nauseate nor disturb digestion, for the proper food nutrition is the first and most important consideration; it should not be astringent but rather a laxative, and, finally, should be absorbable with the least possible effort on the part of the tissues. These requirements he has found are happily met by a phosphated iron which is insoluble in water as well as in the hydrochloric acid of the stomach. It is suspended in a menstruum, with glycerin preservatives, slightly aromatized and forming a milk-white liquid. The dissolving agent is a tablet containing sodium phosphate, which is taken after the milk-like liquid, causing the formation of a soluble bibasic sodium and iron phosphate which is in its nascent state more readily absorbable.

Bacillus Typhosus Causing Cystitis.—Careful bacteriological examinations combined with the improved methods of differentiating the bacillus typhosus from other similar bacilli have led to the discovery of this germ in many of the organs of a typhoid patient and in the various complicating lesions. The urine has frequently been found to contain these bacilli and a complicating cystitis often has, no doubt, for its germ origin the bacillus of Eberth. A unique case has been reported by T. R. Brown (*Med. Record*, March 10, 1900), in which a cystitis, due to the typhoid bacillus, was no doubt inoculated by catheterization. The case was operated on for a large myomatous uterus and may have received some trauma of the bladder. The urine examination previous to operation showed it to be normal. Catheterization was necessary and the recovery was uneventful until the ninth day, when a severe cystitis developed. Strict aseptic precautions were taken to obtain a specimen of urine, which was found to contain a large number of bacilli which corresponded to all the morphological and biological characteristics of the bacillus typhosus, and gave a typical Widal reaction.

The patient had typhoid fever thirty-five years previously without any subsequent secondary symptoms, and it is very improbable that the germs could have lain dormant in the meantime. Urotropin, five grains three times per day, seemed to have a marked effect in cleaning up this case.

Pneumonia and Tuberculosis.—It is oftentimes found that cases of apparently lobar pneumonia tend to run a protracted course and finally develop unmistakable signs of a tuberculous pneumonia. R. W. Philip (*Practitioner*, Feb., 1900) has published the results of his observations on the relationship of the two conditions after a most valuable experience. He believes that the supervention of a lobar or croupous pneumonia during the course of pulmonary tuberculosis is by no means uncommon. This clinical fact may be observed often enough, but it must be distinguished from a simple exacerbation of a chronic tuberculous inflammation. Further, he has frequently found at autopsy of persons dying of lobar pneumonia the lesions of a tuberculous inflammation in various degrees of activity. Sometimes it would appear clinically that the course of the pneumonia is undisturbed by the tuberculous condition. In other instances it appears to run its course unusually quickly and simply. Walshe says: "Some of the most marked cases of rapid resolution I have met with were in phthisical patients." If the tuberculous pneumonia is far advanced, lobar pneumonia is most serious but it frequently occurs that the tuberculous process is not at all aggravated by the presence of the lobar pneumonia. With reference to the point whether pneumonia may determine the establishment of pulmonary tuberculosis an analysis of a thousand cases showed that in only 0.5 per cent. did there seem traceable a close sequence of the tuberculosis or croupous pneumonia. Other observers give similar figures. Where such a relation appears to exist it must be remembered that the acute condition may have supervened in an already tuberculous lung. In many of the cases of delayed resolution it is probable that the condition which exists is not tuberculous, but an instance of that class of cases in which there is a growth of connective tissue from the first combined with the lobar pneumonia. Examples of this have been described by a number of observers. Again, it must be borne in mind that pulmonary tuberculosis is occasionally ushered in by acute symptoms and signs which may be interpreted as lobal pneumonia.

An Easy Method of Reducing Shoulder and Hip Dislocations.—L. A. Stimson (*Med. Record*, March 3, 1900) for forward dislocations of the shoulder cuts a hole through the canvas about eighteen inches from the head of a cot. The dislocated extremity is passed through this hole, a ten-pound sand-bag is attached to the wrist after the cot is sufficiently elevated, and the patient lies comfortably on the cot until the joint is reduced by the tiring out of the muscles, which occurs usually within six minutes. (This is a modified application of the old method of traction with the arm abducted to a right angle.) In dorsal dislocations of the hip-joint the patient lies prone on a table with the thighs overhanging. The sound limb is supported in extension by an assistant. The other thigh hangs perpendicularly and the foot is raised by the operator until the knee is flexed to a right angle. The thigh is gently swayed from side to side, when reduction often occurs. If necessary, a sand-bag may be placed just behind the knee to assist in the traction on the hip-joint. This method succeeds in four-fifths of the cases.

Phenacetin and Antifebrin on the Blood.—With spectrophotometric methods, A. Denning (*Deutsch. Arch. f. klin. Med.*, Bd. 65, vols. 5 and 6) was able to show that an amount of antifebrin corresponding to 0.685 gm. per kilogram of body weight caused the presence of methhemoglobin in the blood of dogs after thirty minutes to three

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hours. The maximum amount was reached after four to six hours. With 60-62 per cent. hemoglobin oxidized, one dog showed complete absence of reflexes, irregular pulse and respiration and a high degree of cyanosis, while with 66 per cent. death usually followed. Phenacetin gave similar results. The temperature was affected differently in different animals, but on the whole there was a general tendency to fall. The respiration, too, varied considerably, but the pulse generally rose and after large doses became small and arhythmic. The lethal dose in case of both drugs was found to be about 5 grs. to the pound of body weight.

Friedreich's Ataxia.—The symptomatology and diagnosis of this disorder are discussed by C. Wickel (*Münch. med. Woch.*, Feb. 20, 1900). Usually seen in early childhood, it may yet appear at puberty or later and rarely after acute diseases. As a rule, it is transmitted from generation to generation, but may be present in only one member of a healthy family. A prominent symptom is the progressive ataxia seen on walking; the patient will control his movements by watching his gait and a slight kyphosis may develop from the constant flexion of the spine. Romberg's symptom is not rare. Choreic movements, increased by motion, loss of muscular power, especially in the legs, nystagmus and slow, irregular speech are further characteristics. Tactile and muscular sense do not suffer except late, when the former may be impaired. Vertigo occasionally occurs as do also lancinating pains, but these only to a moderate degree. No change in the skin reflexes are seen while the tendon reflexes soon are abolished. Loss of pupillary reflex or bladder and rectal control do not belong to this disease. Later, the dorsal flexion of the great toe and the psychical changes give a characteristic picture. Among rare complications are mentioned cyanosis, edema, tachycardia, insipid diabetes and excessive perspiration and salivation. The disease must be distinguished from spinal syphilis, but the latter develops more acutely, shows remissions throughout its course, and leads to paresis or complete paraplegia of the legs; changes in sensation, pains and the symptoms of cerebral lues may frequently complicate the picture. The absence of spastic paresis, increased reflexes and eye and bladder symptoms would speak against multiple sclerosis. There usually is little difficulty in diagnosing from tabes, cerebellar tumor and chronic progressive chorea, while, with reference to *hérédo-ataxie cérébelleuse*, it is to be borne in mind that the absence of patellar reflex, optic atrophy, strabismus, and of diminished pupillary reaction in Friedreich's disease would prevent any error.

Intestinal Neuroses.—W. J. Rothwell (*Medicine*, March, 1900) groups these as disturbances of motility, of sensibility, and of secretion. Of the former we have: (1) Peristaltic restlessness depending upon excessive irritability of the motor nerves of the small intestine, and manifested by rumbling, gurgling, croaking or squeaking. It is especially brought on by emotional excitement, and is not accompanied by alvine discharges as the colon is unaffected. (2) Peristaltic restlessness extending to the colon and upper part of rectum, and followed by precipitate bowel movements. These conditions are benefited by general treatment with arsenic or methylene blue. (3) Enterospasm, due to increased irritability of the splanchnic nerves and indicated by colicky pains and a doughy fecal tumor at or near one of the flexures of the colon. This may be relieved by opium or codeine, warm abdominal cataplasms, and soothing enemata. It is in this condition that the administration of opium may be followed by a movement of the bowels. (4) Ordinary colic, or temporary spasm, due to local irritation. The cutting pains are probably due to the pressure of the contracting muscles on the terminal nerve-filaments, and may be overcome as well by antispasmodics as by anodynes.

Of the disturbances of sensibility: (1) Anesthesia is normal except in the lower portion of the rectum. When this becomes anesthetic, as in hysteria, involuntary fecal passages may result. (2) Hyperesthesia, a feeling of distension without tympanites, or soreness without discoverable organic cause, of throbbings, flutterings, etc. (3) Neuralgia, a boring, pinching, or cutting pain centering about the umbilicus, sometimes accompanied by vomiting and feeble pulse, and suggesting peritonitis, appendicitis, renal or hepatic colic or lumbar neuralgia. However, there is no fever, the constipation is not obstinate, and the pain is relieved by pressure. Of secretory disturbances: Mucous colic, and excessive secretion of mucinoid, nonfibrinous material, coagulating on the inner coat of the bowel and discharged at intervals with colicky pains. It occurs usually in neurotic females and is very resistant to treatment. One may use olive or castor oil as a laxative, cannabis indica for pain, sodium phosphate to prevent fermentation, and salol, resorcin, or bismuth salicylate as disinfectants.

Cough of Influenza.—G. Lemoine, *Bull. gen. de Therapeutique*, recommends the following:

℞ Sodii benzoas.....3i
Bromoform.....m x
Syrup of tolu.....ʒi
Syrup of lactucarium.....ʒiii.

M. Take in twenty-four hours in divided doses.

Syphilis of the Labyrinth.—Begin with the administration of pilocarpin, as follows:

℞ Pilocarpin. hydrochld. .....gr. iii
Aq. dest. .....ʒii.

M. Sig. Four drops, increasing to twelve drops a day, to be given hypodermatically.

Unless noticeable improvement takes place within one to two weeks, substitute general iodide or mercurial treatment, also inject a solution of potassium iodide into the ear and prescribe inunctions behind the ear of iodoform, iodol, or mercurial ointment.—*Politzer* (*Landesmann*).

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SATURDAY, MARCH 17, 1900.

BUBONIC PLAGUE ON OUR WESTERN COAST.

WE have steadily insisted in our columns that the most imminent danger from the bubonic plague in this country would come on our Western coast. We pointed out also that the danger from the introduction of the disease was much greater at small ports of entry than in the well-guarded harbors of large cities. Our warnings are amply justified by the report of nearly a score of cases of the disease on board a vessel from a Japanese port, now in quarantine at Port Townsend, on Puget Sound. Thanks to the vigilance of quarantine officials, the disease did not according to latest reports succeed in effecting a landing. It has been strictly confined to the ship on which it came from Japan. The quarantine officials at Port Townsend certainly deserve the heartiest commendation from the medical profession and from the country at large for their successful efforts in dealing with this threatened invasion, as well as for the prompt and efficient work by which they accomplished it. Their success should prove a stimulus to the most diligent emulation on the part of the quarantine officials at small ports all along our coast lines.

The danger is steadily on the increase along our Western coast, as our commerce with the East becomes more extensive. With the plague at Honolulu and Manila, in addition to the many points on the Asiatic coast and in Japan, only the most intelligent and painstaking precautions will make us secure. With the warmer weather there comes, as a rule, a lessening of the virulence of the plague in India, but this will not justify any relaxation of quarantine regulations in the midst of our growing Oriental commerce. Prevention must be the watchword all along the line.

The discovery of a case of plague in the heart of Chinatown, San Francisco, lends a new and serious interest to the situation. The unfortunate feature in connection with the case consists in the fact that the investigations thus far conducted have been unable to trace the origin of the infection. To complacently rest on the theory that it is a sporadic case, that it has no antecedents and, probably, no successors, would be criminal negligence. Undoubtedly, the health authorities have a hard fight before them in the face of the popular opposition that has been aroused; but they have the legal authority to apply sanitary precautions to the fullest extent necessary, and will be held responsible by the country if they in any way show the white feather.

ENDEMIC DYSENTERY AND AMŒBIC COLITIS.

WHEREVER a number of human beings are crowded together under insanitary conditions dysentery almost inevitably develops. Centuries of experience in camps and barracks have demonstrated the fact. The introduction of a specific germ from without is not necessary, for there is present in the intestinal canal of even normally healthy individuals some pathogenic agent that under circumstances favorable to its development takes on a virulence that produces the disease. The conditions that bring about this increase of virulence in one or more of the flora (or fauna?) of the intestines need not necessarily be extremely insanitary. In recent years the hygiene of great assemblages and of army camps has been much more carefully guarded than formerly, yet the attempt to prevent the occurrence of dysentery is still unavailing. Our own recent experience and that of the British in South Africa have been sad proofs of this. The history of our summer militia encampments show

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how incessantly natural forces are on the watch to resent breaches of sanitary discipline.

The pathogenic agent at work in these cases remains a mystery. Japan has in recent years suffered from an endemic dysentery that has gradually spread throughout the country. A recent consular report to the United States Government attributes the etiology of the disease to a microorganism that is not unlike the colon bacillus in many of its bacteriological characters. It bears a family resemblance also to the typhoid, and seems in the opinion of competent Japanese investigators to be a member of this colon typhoid group, perhaps a normal dweller in the intestinal canal. Whether this microorganism described in Japan is universal and liable to take on similar virulence under like conditions in any part of the world remains undecided.

A very interesting phase of endemic dysentery in this country was described at the recent discussion on colitis before the Section on Medicine of the New York Academy of Medicine (see p. 432). A number of observers in New York are agreed that there are cases of amœbic dysentery constantly to be found in the city. Careful investigation shows that the disease occurs among people who have never been out of the city, yet whose stools are easily seen to contain active amœbæ in large numbers.

The pathogeneity of the amœbæ that have been found in the stools of patients in temperate climates is by no means generally accepted. Notwithstanding Quincke's work on the subject there are many who doubt if the amœbæ, so often found as an inhabitant of the intestinal tract of people who have never been in the tropics, can ever under any circumstances be the active cause of the dysentery with which it is sometimes found associated. Ordinary drinking water contains active amœbæ in large numbers, especially during the summer. It is from the public water supply almost anywhere in the United States that specimens of this microorganism are obtained for biological study and demonstration. Most of the amœbæ consumed with the drinking water are undoubtedly digested in the stomach, but some of them escape the action of the digestive juices and multiply rapidly in the intestine. Some three years ago at a meeting of the resident and attendant physicians of the Charité Hospital, Berlin, it was accepted that active amœbæ occurred frequently in the stools of healthy individuals who have never had dysentery. Only in the virulent form can the amœba be held responsible.

THE PATHOLOGICAL INSTITUTE OF THE NEW YORK HOSPITALS IN DANGER.

THREE years ago the State Lunacy Commission under the leadership of its president, Dr. Carlos F. McDonald, established for psychic research a State laboratory, known as the Pathological Institute. It was the purpose of the Commission to make a new departure; to leave the treadmill-round of clinical observation and citation as carried out in the asylums and strike out new paths in the living phenomena of psychiatry. Those who recognized the dead empiricism of former methods saw in the establishment of the Institute the possible dawning of a new era. These hopes have been steadily confirmed and justified. The correlation of psychologic and medicobiologic sciences in psychiatric investigation was a brilliant conception, and as the Institute has developed and evolved its methods of investigation the conviction has become irresistible that important results are within its grasp. The plan and methods have already thrown altogether new lights on the problem. These are sufficient to justify its existence and demand its continuance. Sufficient time, even in this land of rapid achievement, must be given for such a great work in science to develop on its own particular lines of research before we are justified in demanding of it far-reaching, practical results.

Unfortunately departures from time-honored methods seldom escape opposition. And the Institute is experiencing the usual fate—carping criticism has been present from the first, but this has at length broken out into decisive opposition, and this, too, in the camp of those who were wont to be called its friends. This is the more startling when we consider how inconceivable it is that any one who has the slightest interest in neurology, or psychiatry, or in science in general could be so ill-advised as to pass final judgment on or oppose as well considered a plan of research as is embodied in the Institute. The question then becomes a pertinent one: What are the motives that inspire this opposition. The well-known fact that the practical politicians seldom interfere with established scientific institutions makes the question all the more pertinent. And we, therefore, ask who is responsible for the threatened destruction of the Institute, and what are his motives?

THE SEA-TRANSPORTATION OF WOUNDED.

THE success attending the construction and use of hospital ships, as developed in our Span-

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ish-American war, has given such an impulse to the science of medical transportation that it seems to have reached almost perfection in the hands of the British in connection with the South African war. The "Princess of Wales," which arrived at Southampton last week with 174 wounded men from Magersfontein and Modder River on board, has achieved the proud record of carrying the entire detachment from Cape Town without a single death. Indeed, many of them when they reached England were on the highway to recovery and the majority of them practically well. As only the seriously wounded men and those likely to be long disabled, or slow in recovering, are sent home by the hospital ships, this is an achievement of which medical science and constructive skill may well be proud.

If the site of the theater of war had been especially chosen with the view of promoting and accelerating the recovery of the sick and wounded in the highest possible degree, it could not have been improved upon. Three-fourths of those who were placed upon the ship at the Cape reached home practically cured. The railroad trip down to the coast, the sea-breezes, and the fresh air of Wynburg are sufficient for the restoration of about half of the sick, and for the remainder the three weeks' sea voyage in a spacious and not overcrowded transport, or luxurious hospital ship, is an ideal climate cure. Beginning in the mild subtropics, the temperature gently warms up as the ship approaches the equator and then cools down slowly again to the tonic snap of the Bay of Biscay, like a well-graduated Turkish bath. Its effectiveness is something wonderful. More than one-half the men landed up to date found themselves fit to turn about and go back at once, and very few of them are unable to walk ashore unassisted, although they had all been carried on board at Cape Town.

ECHOES AND NEWS.

NEW YORK.

Hospital Appointments.—We call attention in our advertising pages to the competitive examination for hospital staff appointments for the German Hospital, to be held April 12, 1900.

Dr. McBurney Resigns.—Dr. Charles McBurney, who for many years has been chief of the staff of surgeons at Roosevelt Hospital, will sever his connection with that institution with the month of March. His resignation was presented to the Board of Trustees of the Hospital February 27th. The cause of the resignation is ascribed to the need of rest. His successor has not yet been appointed.

Mine Disaster Victims.—Three victims of the recent Red Ash Mine disaster in West Virginia, in which forty miners were killed or injured, unexpectedly arrived last week in New York City. The men were all suffering from broken bones and serious contusions and were sent by the police to the Hudson Street Hospital. After their injuries were dressed they were removed to Bellevue.

Medical Legislation.—The bill appropriating $1,000,000 for State care of the insane has passed the Legislature and awaits the Governor's signature. A bill has passed the Senate providing for the abatement of the nuisances connected with the Garbage Disposal Plant on Barren Island, and a bill has been signed by the Governor giving to New York City authority to construct sewage disposal plants. In the Assembly a bill has been introduced which requires the Commissioner of Water Supply of New York City to provide for a proper filtration of the water. Provision is made for the construction of proper machinery, and the Comptroller is authorized to issue special bonds to meet the expense.

Contagious Diseases.—For the week ending March 10, 1900: Measles, 874 cases and 30 deaths; diphtheria, 264 cases and 46 deaths; laryngeal diphtheria (croup), 14 cases and 7 deaths; scarlet fever, 174 cases and 19 deaths; chicken-pox, 25 cases; tuberculosis, 223 cases and 163 deaths; typhoid fever, 13 cases and 6 deaths; cerebrospinal meningitis, 6 deaths. Totals, 1587 cases and 277 deaths.

New Infant Hospital.—Two ladies have given $10,000 to the Children's Aid Society of Brooklyn for the building of an infants' hospital and a beach pavilion, as an extension to its other buildings used in the summer at Coney Island. This hospital will be reserved for cases of critical illness. The buildings will be completed in time for the summer season.

Pemphigus at Bellevue.—More than thirty physicians were at the Bellevue morgue on the evening of March 9th to witness an autopsy made by Dr. Ewald upon the body of a man, twenty-four years of age, who died from pemphigus, an exceedingly rare disease in the United States. Pain in the face was first complained of; this was diagnosticated as neuralgia. He had polyphagia to a marked degree eating more than ten grown persons would usually eat. The most characteristic skin lesions were vesicles containing serum.

A Step too Far.—About twenty boys and girls in the new High School in Williamsburg witnessed, on March 7th, the chloroforming to death and dissection of a cat in order that a practical demonstration of the anatomy of the animal could

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be given by Professor J. K. Van Demberg. The bad impression which must have been made upon these young people is very likely to have far outweighed whatever good may have resulted from the demonstration.

Geneva's Smallpox Expense Claim.—A claim of $2386 arising from the importation of smallpox into New York State in 1898, by the Joshua Simpkins Opera Company, was filed in Albany on March 10th by the City of Geneva. A mild epidemic or smallpox in that section originated with a member of the company. The company went to Geneva, where its twenty-six members were placed on the steamer "Onondaga" and quarantined on Seneca Lake for several weeks. The city's claim is for the cost of the quarantine.

The Medical League.—The Secretary of the Committee on Charities and Legislature of the New York Medical League submitted its annual report at the meeting held January 15, 1900. The report narrates the active part taken by the Committee in securing the passage of the present Dispensary Law, and also its success in checking the growth of unnecessary charities in preventing the Home for Incurable Cancer securing a charter. The report commends Comptroller Coler in the attitude he has assumed toward public hospitals and dispensaries. The Committee also took an active part in resisting the incorporation of Emanuel Hospital. The suppression of this institution was one of the first fruits of the new Dispensary Law. The Committee also closes its report by urging upon the entire profession more attention to public duties as a part from the mere grinding out of fees, and the desultory work done in hospitals and public institutions. The Committee regrets "that the profession is not sufficiently interested in these matters to take the time and trouble to work at problems which concern us all, not merely as medical men, but as residents of the largest city in the Union."

Obituary.—Dr. Charles E. West, a pioneer in the education of women and for many years the head of the Brooklyn Heights Seminary, died on March 9th. He was born in Washington, Mass., in 1809, and was graduated from Union College with the class of 1832. In 1839 he became principal of Rutgers Female Institute, and during his twelve years' service in that capacity he outlined a plan of college-work for women which was the precursor of the course at Wellesley and Vassar. He received the degree of A.M. from Union and Columbia, that of M.D. from New York University, and that of LL.D. from Rutgers. A son and two daughters, one of whom married Dr. William P. Northrup of this city, survive him.

PHILADELPHIA.

Influenza.—The Board of Health reports an epidemic of influenza. Several hundred cases have developed and five deaths from this cause occurred last week.

Resignation.—Dr. John Ashhurst, Jr., Professor of Surgery in the University of Pennsylvania, has resigned that position, the resignation to take effect at the close of the present session.

Osteopathy.—The Pennsylvania Association of Osteopathists was organized at a meeting held here last week, Dr. O. J. Snyder of this city being chosen president. Efforts will be made to have the practice of osteopathy legalized in this State.

Health Report.—Deaths in the city for the week ending March 10th were 511, a decrease of 85 from the previous week and a decrease of 9 from the corresponding week of last year. Contagious diseases: Diphtheria, 82 cases, 20 deaths; scarlet fever, 54 cases, 3 deaths; typhoid fever, 84 cases, 10 deaths.

Contagion Feared.—Citizens residing near Thirteenth Street and Lehigh Avenue are alarmed by a report that the trustees of the Rush Hospital for Consumptives are negotiating for a building at that place. A petition averring that said hospital would be prejudicial to the health of the locality has been presented to the owners of the property. It is interesting to note the names of two physicians among the signers.

Celluloid Thread.—At a meeting of the College of Physicians, March 7th, Dr. W. W. Keen presented a report upon the use of celluloid thread in surgery. He and other members of the surgical staff of the Jefferson Hospital have used it with satisfaction. Experiments show that the tensile strength is increased by sterilization, dry heat more than doubling it. The thread absorbs fluids to 41 per cent., this being the most marked disadvantage thus far discovered. Experiments regarding its absorbability are in progress.

Pathological Society.—At the meeting of March 8th Dr. A. O. J. Kelly spoke on "Tumors of the Vermiform Appendix." Of 760 appendices removed at the German Hospital four contained malignant growths, three of these being only microscopic in size. Three of the growths were primary. The clinical symptoms were those of appendicitis. Dr. Frazier reported a case of oxyuris vermicularis in the appendix. In another case a segment of tapeworm was found in the appendix.

Women Army Nurses.—A meeting of physicians and nurses was held March 10th to discuss the bill providing for the employment of women nurses in army hospitals. Dr. S. Weir Mitchell said that the Surgeon General should be placed at the head of the corps of women even if he had under him a woman superintendent. No nurses should be appointed to the army except by competitive examination. This point he considered very important and urged that a clause, stipulating it, should be incorporated in the bill. Mrs. J. R. Hawley spoke of the progress of the bill and of the objections being raised against it. Dr. W. W. Keen is heartily in favor of the bill, but would have some changes made. The number of nurses should be increased and the service made

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to include transports, hospital ships, and field-hospitals. No woman nurse should be sent to the front. He is not sure of the expediency of a woman superintendent of hospitals, but if this should be decided upon the superintendent should be one who has risen from the lowest ranks by promotion.

CHICAGO.

Superintendent of Alma Sanitarium.—Dr. George F. Butler of this city has been appointed Superintendent of this Sanitarium at Alma, Michigan, to succeed Dr. E. S. Pettyjohn, the appointment to take effect May 1st. Dr. Butler will retain his college connection with the Chicago College of Physicians and Surgeons, and will continue to edit the *Doctors' Magazine.*

Examination of Osteopaths.—On March 6th a class of 21 osteopaths from Illinois and surrounding States took a special examination before the State Board of Health for licenses to practice osteopathy in Illinois. The branches in which they are required to pass a successful examination are anatomy, physiology, chemistry, histology, pathology and hygiene. The license does not permit the administration of medicines or the use of instruments in performing surgical operations.

Vital Statistics.—During the week ended March 3d there were 537 deaths recorded by the Health Department. For the first two months of the current year there were 4396 deaths in Chicago as against 4736 for the corresponding period of 1899, a decrease of 342 for the current year. This diminished mortality is due to fewer deaths from pneumonia, influenza, typhoid fever and nervous diseases. The medical inspectors of schools examined 4079 pupils, and of that number excluded 348 because of the danger of infecting others. One hundred and thirty-six bacteriologic examinations were made in the city laboratory; 67 cultures from children's throats were made for physicians for the purpose of determining if children had diphtheria, and the bacillus of the disease was found in 11 of this number.

Visiting Nurse Association.—This Association has been of the greatest value to the city Health Department in its work. This is particularly noticeable in its efforts to suppress contagious disease. Nurses have been most diligent in ferreting out concealed cases and reporting them, and the individual effort that is made by the nurses in teaching those who so much need it the value of isolation in contagion, the value of antitoxin in the cure of diphtheria and vaccination in smallpox, together with the value of the generous use of soap and water and general cleanliness of person and habit, is a gentle and valuable influence that cannot be coldly calculated in dollars and cents.

Eye and Ear Symptoms in Brain Tumor.—Dr. William H. Wilder discussed this subject at a joint meeting of the Chicago Medical and Neurological Society. In the list of general symptoms he put optic neuritis second to headache. Optic neuritis should be looked for at once in all cases of suspected focal disease of the brain, for it may be present although normal central vision exists. The writer found mention of this sign in a hundred and four cases out of a hundred and forty cases of brain tumor recorded in the literature for four consecutive years. Another important general eye symptom of brain tumor, although less frequent than the former, is temporary periodic blindness, coming on in the early stages of the growth. Hemianopsia may be an important localizing eye symptom of brain tumor. The ear symptoms relate principally to the labyrinth and the auditory nerve, and consist of subjective sounds and varying degrees of deafness. Careful exclusion of middle-ear disease is necessary before formulating any conclusion as to the relation of ear symptoms to a possible intracranial growth.

Dr. Weller Van Hook discussed recent work in the surgery of brain tumors.

Socio-Legal Forum Meeting.—This Association, which is composed of physicians, lawyers and sociologists, recently held a meeting at which was discussed "Heredity as a Factor in Developing and Maintaining Crime and Criminals," the essayist being Dr. Albert Schneider. Among other things he said that one boy will steal and lie for the same reason that another is honest. It is natural in either case. Acquired characteristics may be transmissible to the next generation to the same extent that inherited characteristics are. Criminals, like poets, are born, not made. Crime is born of crime. The alcoholic habit is not inherited, but the tendency to become a victim of the habit is inherited. One of the most important matters that should be considered to-day is the prevention of marriages among paupers, criminals, dependents, and delinquents of all kinds. In the discussion Dr. Daniel R. Brower said that the criminal is usually the subject of the tyranny of his construction. The basis of his character is found in the preceding generations. The law with its conservatism has failed to recognize this fact. The crime and not the criminal has been the consideration. The laws should be changed so that the criminal is the consideration. Dr. W. Xavier Sudduth advanced the theory that environment and tradition are stronger influences than hereditary characteristics, and this difference was discussed pro and con by nearly all the members present. Tradition and environment have more to do with the place of man in the social scale than heredity. Every child is by nature a savage, and it is his early training that has a large influence in making him one thing or another. A tendency may be inherited, but a habit seldom is.

Kidney Affections in Pregnancy.—Dr. J. Clarence Webster read a paper on this subject before the Chicago Medical Society. In 1848 Virchow pointed out that, of all the organs in the female organism, the most frequent functional or structural alterations due to pregnancy are found in

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the kidney. Sugar is found in a considerable number of cases of pregnancy, and more frequently after delivery, but this is only milk sugar absorbed from the breasts, not true glucose. The latter is no more frequent in pregnancy than in the non-pregnant state.

With reference to the occurrence of albumin in the urine and its significance, there is great difference of opinion. Its frequency has been variously estimated by different workers. According to recent observations, serum-albuminuria occurs in about 2 per cent. of all pregnant women who are healthy at the beginning of pregnancy. The process of labor causes albuminuria in a still larger percentage of cases. The investigations of the late Sir Thomas Grainger Stewart appear to justify the view that there may be an albuminuria, which is to be regarded as a psysiologic peculiarity and not the indication of a pathologic process. A priori, then, it must be conceded that a like explanation may suffice for some cases of the albuminuria of pregnancy. In a small number of cases the kidneys may not recover from this condition after labor, but may pass into a permanent true parenchymatous nephritis. In the majority of instances, however, there is every reason to believe that they may be restored to their normal condition in a short time.

With reference to compression of the ureters, Halbertsma of Utrecht, from his studies of eclampsia, believes that increased intra-abdominal pressure due to the pregnant uterus, may, by interference with the functions of the ureters, lead to alterations in the renal structure. He thinks that the special tendency to these alterations in primiparæ, hydramnios, multiple gestation, contracted pelvis (in all of which the pressure is increased), strengthens his view. Ries believes that in some cases compression of the ureters by the presenting part of the fetus is the most important factor. The essayist believes that too little attention has been given to the opinions of Halbertsma and Ries.

The treatment of a pregnant woman with symptoms pointing to disturbed renal functions is to be carried out on the lines followed in the non-pregnant state. The strictest watchfulness on the part of the physician is necessary.

GENERAL.

Grip in Boston.—Grip has assumed epidemic proportions in and about Boston. The Board of Health reported 19 deaths from it for the week ending March 10th.

Professor Osler.—It is stated that Dr. Osler, Professor of Medicine at Johns Hopkins University, is to be asked to allow himself to be nominated to the Chair of the Practice of Physic in the University of Edinburgh. The *Medical Press* in this connection avers that the Doctor's reputation is as great in the Old World as in the New.

Mutter Lectureship.—The next course of ten lectures instituted by the late Professor Thomas Dent Mütter, M.D., LL.D., on some "Point or Points in Surgical Pathology," will be delivered during the winter of 1902-1903 before the College of Physicians of Philadelphia. The compensation is $600. The appointment is open to the profession at large. Applications, stating in full subjects of proposed lectures, must be made before October 1st, 1900, to the Committee on the Mütter Museum, and should be addressed to John H. Brinton, M.D., Chairman, Northeast Corner of Thirteenth and Locust Streets, Philadelphia, Pa.

Gynecology, Surgery or Medicine?—It appears that in England gynecology is definitely set down as a branch of surgery, instead of a department of medicine. In a recent announcement of a vacancy for a surgeon for diseases of women, it was stated that candidates must be Fellows of the Royal College of England; in other words, no member or Fellow of the Royal College of Physicians need apply.

Science Classified.—Sir Michael Foster, who is one of the Parliamentary M.D.'s, in a recent speech classified the various aspects of science into: The science *militant,* tilting against every known tradition, the extreme wing of which he denominated as the science *blatant,* always making pretensions for science to which science itself makes no claim. The science blatant is preached by men who have taken no part in the fight, but have stolen the trumpet from some one and simply blown it. Then there is the science *vigilant* which is always seeking occasions for advance; and the science *mendicant,* which, like the daughter of the horse-leech, is always crying, "Give, give!"

Decorated Sausages.—Before the English Government Commission upon Food Preservatives Mr. Walter Fisher, President of the Society of Public Analysts, recently testified that the practice of using coloring matter in food was alarmingly upon the increase. He declared that he had even known of coloring matters which were themselves artificially colored. To this Professor Thorpe added in corroboration that sausages might be found whose exterior was covered with an aniline dye, and whose interior was tinted with a preservative containing Bismarck brown. Mr. Fisher replied that he had heard of such double-dyed deception, but had never examined sausages professionally, nor had he supposed them capable of such rich adornment. Sausage has always been a synonym for mystery, but that its nefarious dark compounds were also frescoed and hand-painted in elaborate style is a fresh revelation of its duplicity.

Mania a Sero.—The *Practitioner* cleverly announces that a severe epidemic of a new form of insanity appears to be setting in. With *mania a potu* we are sufficiently familiar; now we begin to make acquaintance with *mania a sero.* This remarkable affection does not attack patients but the physicians, and the symptoms are particularly severe in those who themselves make the

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serum. Already we have a serum for nearly every known disease. Metchnikoff is about to abolish old age. This, however, depends upon the supply of guinea-pigs. Old age being disposed of, the next thing is to attack vice. A horse subjected to drugging with whisky is supposed to yield a serum which will reform the most inveterate drunkard. As some of the vices cannot well be inoculated into animals, however, we shall eventually reach a condition in which human subjects will have to be employed. "It will doubtless be a comfort to old sinners," says the *Practitioner*, "to be of some use to their kind before they depart this life by furnishing serum that will serve to produce immunity from their vices in others."

Candy for the Soldiers.—Fifty tons of candy have been sent to the soldiers in the Philippine Islands by the Commissary Department of the army during the last three months, and large amounts to the soldiers in Cuba and Puerto Rico. This is done upon the advice of the medical as well as line officers of the army, because it is a physiological fact that in the tropics a moderate consumption of confectionery promotes health and satisfies a natural and not unhealthful craving of the stomach. Candy was never furnished to the United States army before, although it is commonly used as a ration by the British and French troops in the tropics. The larger part of the shipment are chocolate creams and lemon and other acidulated drops, which are hermetically sealed in one-pound tins of oval shape to fit the pocket of a soldier's uniform. The candy is manufactured in New York especially for the Commissary Department and is little more than sugar and lemon or lime juice. It is probable that sugar henceforth will form a part of the soldier's regular ration.

The Russian Method.—The Russian Government has grappled with the question of the overproduction of medical practitioners in a drastic manner peculiarly its own, states the *British Medical Journal*. The admission of first-year students by the several medical faculties throughout the empire is restricted to a fixed number. The total number of first-year medical students in the dominions of the Czar is thus fixed at 1095. This number does not include the students of the St. Petersburg Medico-Military Academy, which is allowed to admit 250 first-year students.

Smallpox in Morristown.—While walking through the public square in Morristown, New Jersey, on March 10th, Dr. James Douglas noticed that the face of Isaac Quimby, one of a group of boys who were playing, was covered with an eruption. He made a diagnosis of smallpox and conducted the boy to the pesthouse, walking on the sidewalk while the boy walked in the road. Two weeks ago a member of the Quimby family was taken ill with the disease, yet since that time this latest victim has been on the streets daily. The local Board of Health is greatly censured for permitting young Quimby to be at large, and possible developments are anxiously being awaited. Three new suspicious cases were reported to the Board of Health on March 10th, and a strict quarantine was established around the houses of the patients.

Dr. Barker and Dr. Bardeen.—Dr. Llewellyn F. Barker, Associate Professor of Pathology of the Johns Hopkins University Medical Department, has accepted the Chair of Anatomy and Neurology at the University of Chicago. He will teach also in the Rush Medical College. He will assume his new duties at the beginning of the next term of the University.—Dr. Charles Russell Bardeen, who is Associate in Anatomy, will become Professor of Anatomy in the University of California.

Health of Troops at Manila.—Surgeon General Sternberg made public, on March 12th, a statement showing the number of sick soldiers in the Manila hospitals, as given in the weekly cable reports since January 20th. The report is as follows: January 20th, 2540; January 27th, 2389; February 3d, 2051; February 10th, 1630; February 17th, 1613; February 24th, 1531; March 3d, 1434; March 12th, 1287. It appears by these data that since January 20th there has been a decrease of nearly 50 per cent., mainly due to the complete recovery of many of those who were ill. It is reported that the Manila hospitals are in excellent condition and that the bubonic plague has been fully checked, if not conquered. Major Brown, who has charge of the Sanitary Inspection Department, has been able to reduce his corps of inspectors nearly one-half.

The Plague.—The number of cases of the plague at Calcutta is steadily on the increase. There were 411 deaths from the disease there during the first week of March. This is causing a great exodus of merchants from the city. At Sidney, Australia, three new cases of plague were officially reported March 11th. At Buenos Ayres a number of cases of plague have been officially reported. Vigorous quarantine measures are being enforced. At the Cabinet meeting in Washington the recommendation of the Hawaiian Council that they be authorized to spend $300,000 in the suppression of the bubonic plague, and in the relief of distressed natives, was formally approved. The opinion was unanimous that the gravity of the situation justified this expenditure and the necessary directions were forwarded at once.

At San Francisco the Board of Health began, March 12th, a house-to-house inspection of Chinatown, because its members are now firmly convinced that the Chinaman who died a week ago succumbed to genuine bubonic plague. This decision was reached after hearing the testimony of the Federal quarantine officer, Dr. Kinyoun, who reported that all the animals which had been inoculated with virus from the body of the Chinaman had died, and autopsy demonstrated the presence of bubonic plague. His diagnosis was concurred in by several other bacteriological ex-

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perts. As this case may have been merely sporadic, the board decided not to quarantine Chinatown, but to establish a systematic inspection of the quarter and to insist that all sick Chinese shall be brought for treatment to white doctors. It was also decided to clean Chinatown.

Physique of the Boers.—The London *Lancet*, commenting on the physical condition of the Boers due to their pastoral life and outdoor occupations, says: In so far as they are of Dutch descent, the Boers should be small. The French blood which is mingled with that of the Dutch would not tend very considerably to increase the height of the Boer. The French, although taller than the Dutch, are not so tall as the English. Yet the Boers of to-day are taller, stronger, and possess a more powerful physique than the English. It is quite a common occurrence to meet a Boer six feet six inches in height. Indeed, it has been said that the average height of the Boer is six feet two inches. All travelers bear witness to their magnificent physique, especially those who have been among the real Boers, that is to say, those who live in the rural districts well away from the railway lines.

But apart from the flesh and bone, the big, strong frames, and the hard muscles developed by the healthy, constant out-door exercise, the Boers have practical freedom from the diseases due to alcoholism and vice. They are not total abstainers, but they are remarkably sober, and drunkenness is rare among them. On the other hand, how often are British soldiers punished for drunkenness and invalided through venereal disease. Not only is almost every Boer physically fit to take the field and fight for his country, but he is a stronger, healthier, and bigger man than even those who have been selected by medical examination as fit to serve in the British army.

From this the *Lancet* deduces the lesson that the physical salvation of the human race is to be obtained only by securing at least a reasonable proportion of the fresh air, sunshine and out-of-door life that is enjoyed by the Boer.

Medical War News.—There are now no fewer than seven consulting-surgeons with the British forces in South Africa, each receiving pay at the rate of $25,000 a year, or a total of $175,000. The *Practitioner* remarks that, of some of them, it may be said without the least reflection upon their professional position that they had blushed unseen within the walls of their hospitals before this greatness was thrust upon them. The men, of course, are worth it and more than worth it, but the question is asked: Is the work which, in the peculiar circumstances of the case they are able to do, worth it?

The siege of Mafeking continues and all the horrors and suffering of Ladysmith are being experienced here. Two hundred and ninety-two persons have been killed, wounded, or have died of disease since the siege began. Typhoid malaria and dysentery are epidemic. The death-rate among the children is said to be appalling.

Much complaint is being made of the character of the ambulances supplied by the war officials. Their massiveness may be estimated from the fact that it requires twelve mules to draw one over broken ground, although they only accommodate two patients lying down and four sitting up. A patient carried in one of them to the hospital writes that the agony he endured from the jarring of a compound fracture exceeded the setting of it afterward. By contrast with this condition of affairs the Boer ambulances are of the most modern and approved pattern; carry four or even eight patients lying down and are drawn by two horses. One of the private English field-hospitals, however, has a star equipment in this respect. Its ambulances are light road-wagons, can go anywhere and keep up with the movements of the cavalry. It has earned for itself the title of "the galloping hospital."

It is being discovered that the recent detachments of reservists and militiamen forwarded to South Africa contain a very large number of "lame ducks," hopelessly incapable of going to the front. It is quite evident that the examinations at home have been conducted by men who do not understand military requirements, or who were so pressed for time that they could not do thorough work. Cases of distinct phthisis, of renal disease, of well-marked tertiary syphilis, of ulcer of the leg, of large varicose veins, of varicocele, of old inguinal hernia, and similar ailments, have been landed at Cape Town only to be sent back home; and this not in ones and twos, but in a very fair proportion.

Frederick Treves who is with the forces as consulting-surgeon says that the men at the front are a fine, hardy, heroic set. One poor fellow, who had been hit by a piece of shell at Spion Kop, which had carried away his left eye, the left upper jaw and the corresponding part of the cheek, and who was unable to speak, when landed at the hospital made signs that he wanted to write. Pencil and paper were given him with which to express his needs, but he merely wrote, "Did we win?" Of course, no one had the heart to tell him the truth.

SELECTION.

BERIBERI AND PLAGUE AT PORT TOWNSEND QUARANTINE.[1]

BY M. HUGH FOSTER, M.D.,
ASSISTANT SURGEON, U. S. M. H. S.

NOTHING is so effective in allaying fear and avoiding panic as preliminary and intimate knowledge concerning the possible cause of such conditions. To this end we publish in full the following detailed account of the thorough manner in which the Marine Hospital Service is meeting the threatened invasion of our shores by the bubonic plague.

"I have the honor to make the following re-

[1] Report to Surgeon-General Wyman.

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port of the condition of affairs relative to the Japanese steamship 'Nanyo Maru,' now held in quarantine at Port Townsend. This vessel arrived here January 31st, seventy-five days out from Kobe and thirteen days from Honolulu. She gave a history of having carried 312 Japanese immigrants from Kobe to Yokohama, and had been disinfected at Yokohama and detained seven days on account of suspicious glandular enlargement of 3 of her passengers. These cases, according to Sanitary Inspector Eldridge, proved not to be plague and the vessel departed, leaving these 3 behind. There were 800 passengers on board to work in the sugar plantations. I understand that these were held on the vessel for thirty days before they were allowed to land at Honolulu, and as a result the vessel was in a filthy condition when she got here. Two cases of beriberi were discovered—1 among the passengers and 1 among the firemen. On arrival at quarantine these were removed to the hospital and the vessel started to unload her cinder ballast. Two other cases were reported during the afternoon, 1 of whom died during the night.

"The necropsy I reported at length in my letter of February 2d, and it showed all the signs of beriberi, but in addition there was a general glandular enlargement all over the body. This caused me to send some of the glands and a part of the spleen to Surgeon Kinyoun at Angel Island for microscopical examination, and to recommend that the vessel be held pending his report. On February 2d, 1 of the inmates of the hospital died and the necropsy was exactly similar to the first. Two additional cases of beriberi were admitted on this day and 5 on the following, making a total of 11 cases up to that date and 2 deaths. The patients in the hospital all had swollen and edematous legs, more or less paralysis of the limbs, and complained of pain in the muscles and oppression of the heart. The necks and faces of the severer cases were also swollen and there was 1 case of suppression of urine. A personal examination showed me that about half of these had enlarged glands, but none of them has ever had any fever nor have the glands been tender or painful. A large number of the crew and steerage also showed generally enlarged glands, but were well and lively. I took some of the glands of the second case and rubbed them up in a mortar with sterile water and injected 1 c.c. of the solution into the leg of a rabbit. This rabbit is alive and well fifteen days after. Three of the 9 remaining cases looked to be serious, but all have convalesced nicely except 1, who died on February 16th, and presented the same appearances at the post-mortem as the other 2.

"To return to the vessel, the crew were set to work discharging ballast and a preliminary disinfection with sulphur made in the steerage which was the worst part of the entire vessel. The passengers were taken ashore, and, after the usual bath and disinfection of clothing, were put in the barracks. The captain, under coercion, ordered a supply of fresh bread and beef for all hands. A quantity of spoiled food was condemned and burnt. The water-tanks were boiled by turning in steam and a new supply of water given. After three or four days of mechanical cleaning-up by the crew and quarantine attendants, the vessel and crew were disinfected. All were then returned to the vessel. The bathhouse and disinfecting-room were disinfected at the completion of the process, as is our routine custom. The pilot was kept at the station as he had been on board the vessel all night.

"Upon receipt of a telegram from Surgeon Kinyoun that he had found something suspicious, Dr. Seavey was placed in charge of the hospital and a strict quarantine imposed upon him as had been upon the nurse and hospital from the start. The entire station, including surgeon's and attendant's quarters, was disinfected and all the clothing and bedding of the complete personnel sterilized. The antipest serum was sent to the quarantine yesterday, and I have ordered every one on the station and those in the hospital to receive an immunizing dose of 10 c.c., and I think we are taking every precaution possible.

"To sum up, I would state that I have no doubt that all of these cases had beriberi, that the first one was probably recovering from an ambulant case of plague seems possible from the finding of the plague bacillus in the glands, as reported by Dr. Kinyoun. I understand that he was not ashore at Honolulu, and may have received his infection at Kobe, at least seventy-six days before death. I shall, therefore, redisinfect the vessel and permit her to depart with a new crew if the owners desire, but I shall detain the entire personnel fifteen days to await developments; this I regard as very necessary. . . . I have received 24 flasks of the pest serum and ordered 3 antitoxin syringes from Seattle as soon as I received word that it was coming. All we need now is a larger supply of the antipest serum and we will be fully equipped for any emergency."

CORRESPONDENCE.

LEGISLATIVE FADS VERSUS INDIVIDUAL LIBERTY.

To the Editor of the MEDICAL NEWS:

DEAR SIR:—In your issue of February 10th, page 228, I notice a news item on medical control of marriages. The item in question informs us that a bill is before the legislature of Colorado, "which, if passed, will place the granting of marriage licenses in that State in the hands of a board of medical examiners."

From the general tenor of the bill, as given in the news item, there is but little doubt in my mind that it was prepared by a medical man. One of the many—alas, too many—whose ambition or spirit is not satisfied with quietly working strictly within the sphere of their chosen calling, but who feel impelled to exercise a despotic control over the individuals who make up that ever-erring,

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distract, and sorely abused football of venal and vicious, or ignorant, politicians—the State. Of course, it is all done for the good of humanity! All such, and kindred, statutory enactments—which are being piled up by every legislature of every state, *ad nauseam*—have been established to that end. I hope that the bill will pass the legislature, in order that the Governor, with a severe scoring of its projectors, may veto it because of its patent unconstitutionality.

Such coercive measures for the betterment of social evils, and general improvement of mankind, are fundamentally wrong. "By the pursuit of this absurd policy, modern reformers, forgetting that they are following in the footsteps of the old French despots, imagine that they are hastening the millennium. What they are hastening is only a revolt against their suppression of freedom. They are building up a despotism of democracy certain to become just as hateful and intolerable as the despotism of autocracy."

To all would-be hasteners of the millennium, to coercive-philanthropy advocates, and to those who feel irresistibly impelled to frame, and lobby through the legislature, laws which are intended to improve mankind physically and morally, I would commend the study of Von Humboldt, Huxley and Spencer.

Albert F. Fuchs, M.D.

Loyal, Wis., February 26, 1900.

EGG-MEMBRANE FOR SKIN-GRAFTING.

To the Editor of the MEDICAL NEWS:

DEAR SIR:—I notice in your journal of January 27th, under the heading of "Echoes and News," that the lining membrane of the egg was used the first time in the United States for grafting purposes at the Methodist Episcopal (Seney) Hospital, Brooklyn.

This is not so unless tried more than three years ago, as I used egg membrane successfully for grafting during my service as intern in the City Hospital, during 1897 and 1898.

There was a case of an extensive burn on the body admitted to Ward VIII., that refused an operation for skin-grafting; consequently the membranes of the ordinary hospital eggs were used, but with little idea of success on account of the uncertain age of the eggs. The membranes were applied and treated in the same way as the ordinary Thiersch grafts. On the fourth day the bandage was removed and the wound washed with normal saline solution. All of the membrane seemed to come away, but close inspection revealed the fact that small parts of the inner layer of the egg membrane were adherent, forming minute bluish islands on the granulating surface of the wound. These islands gradually spread over the whole raw surface covering it with a bluish-red skin.

I found the growth of the egg membrane grafts much slower than that of the old skin method, but otherwise satisfactory. Two cases have been treated since with the same results.

I do not think my case was the first treated in this way in America, as the idea was obtained from some medical journal.

G. L. Kessler, M.D.

588 Bedford Avenue, Brooklyn, N. Y.
March 1, 1900.

OUR LONDON LETTER.

[From Our Special Correspondent.]

LONDON, March 3, 1900.

SIR JAMES PAGET'S ESTATE—SMALL DISEASE-RATE AMONG TROOPS IN SOUTH AFRICA—NATURE OF "CAMP-FEVER"—THE CORYZA OF THE TROPICS—A HISTORIC INSTANCE OF HAIR TURNING WHITE UNDER EMOTION EXPLODED.

IN these days when the wicked flourish as a green bay-tree and we are assured that it is chiefly the charlatans in the profession who succeed financially, it is a comfort to come upon instances of genuine merit reaping rewards not merely of fame but of substantial emoluments. The case in point is furnished by the publication of the will of the late Sir James Paget. His net estate reaches the by no means imposing but most comfortable figure of $370,000, which is divided almost equally among his six children. There is a custom among the leading newspapers here which strikes an American curiously, in spite of our alleged utter journalistic indifference to the rights of individual privacy, of going to the public register of wills filed for probate, picking such as will be of interest to the public, either on account of the man or the amount, and publishing them in outline, but often with a full list of the bequests. When it is remembered that Sir James Paget began his career in London almost penniless and supported himself for several years upon a perilously slender income of barely $400 a year, won by writing and coaching, and that he always worked from sheer love of his work and for fame, rather than for money, the accumulation of such a sum is really remarkable, and goes far to rehabilitate temporarily the now exploded superstition that virtue is its own reward.

The losses by disease of the troops in South Africa still continue remarkably low, considering that they include those of three hot-besieged and closely beleaguered towns, with a total of some 15,000 men cooped up in them. The total deaths to date from disease are barely over 600, as contrasted with 1400 from wounds, making less than one-third of the total mortality. Six hundred deaths in five months among an army ranging from 80,000 to 150,000 men makes a death-rate, roughly speaking, of only about 15 per 1000 per annum, lower than that of most cities in times of peace and only about treble the ordinary barrack rate. For almost exactly half of this number typhoid is responsible, and this mainly in Ladysmith, where it was endemic before the siege began and the water-supply badly polluted. For a time the typhoid death-rate steadily increased, but

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it was fought so vigorously by the medical officers and sanitary precautions so rigidly carried out that we now have the cheering news of its rapid abatement. The same is true of dysentery, and although that indefinable and irritatingly indefinite disease "camp-fever" is slightly increasing, this is fortunately of a very mild type.

Several tropical practitioners have attempted to explain this mysterious disease during the past few weeks and the sum and substance of their statements appears to be that in the tropics, for some reason, a rise of temperature with furred tongue, headache and enteric catarrh, lasting for several days occurs very readily. The fever is clearly neither typhoid nor malaria and seems to correspond to the old "simple, continued fever" of our earlier text-books. It is possibly the tropical equivalent of our northern coryza, which is comparatively rare in hot climates; at all events, it seems to be a disease against which no preventive measures can be taken, as its origin is quite unknown.

To succeed in stamping out an already established epidemic of typhoid, in a besieged town, with a polluted water-supply, and in the height of an African summer, is certainly a triumph of modern medicine and one upon which the medical men, both army and civilian, of Ladysmith are to be warmly congratulated.

The death of Mr. Joseph Cowen, the Newcastle millionaire-statesman, has brought to light a curious little incident of some medical interest. Cowen in his younger days was an ardent revolutionary sympathizer, and his house was the hospitable refuge of half the conspirators of Europe, among them Orsini, who threw the bomb at Napoleon III., and killed more than a score of people. When Orsini was arrested for the crime his beard was jet black, but during his trial and condemnation it turned snowy white, and the change was set down as an instance of a man's hair turning white under intense emotional strain. It just so happened, however, that Orsini, on his last visit to Cowen's house, only a few weeks before his attempt, had accidentally revealed the fact that *his beard was dyed.* Hence, the change of color during his trial was simply the fading out of the dye in prison, where he had no means of renewing it. Mr. Cowen was fond of relating the story, and it well illustrates the caution with which even historical accounts of the occurrence of this remarkable change should be accepted as genuine. There seems little question that this dramatic change "and his hair turned white in a single night," does occur, but probably with scarcely a fifth of the frequency with which it is credited.

A Wash for Urticaria.—

℞ Bicarbonate of soda.....3v
Sydenham's laudanum.....gtt. xx
Boiling water.....℥xv.

TRANSACTIONS OF FOREIGN SOCIETIES

French.

PARACECAL LESIONS SIMULATING APPENDICITIS—SUBACUTE TETANUS SUCCESSFULLY TREATED BY INJECTIONS OF SERUM COMBINED WITH TREATMENT BY CHLORAL—DEATH FROM EATING PATÉ DE FOIS GRAS—PRURIGO GESTATIONIS.

AT the Society of Surgery, January 24th, GERARD-MARCHANT mentioned three instances in which he had operated expecting to find an inflamed appendix, but had found instead one or more enlarged glands lying in front of the cecum. He insisted on the distinct etiology in such cases, considering the trouble to be of tubercular nature, although the examination of the removed glands had failed to show the usual tubercular lesions in them.

JALAGUIER mentioned a similar case occurring in his own practice. Although the appendix appeared perfectly healthy, he nevertheless inclined to the idea that it was the cause of the glandular enlargement and that the inflammation in the appendix had subsided before operation was performed, while the secondary inflammation in the lymphatic glands situated at the ileocecal junction had persisted.

QUENU said that the term *para-appendicitis* sufficiently describes a group of inflammations occurring around the termination of the ileum and the cecum. He had observed several instances similar to those mentioned by Gerard-Marchant. In one patient who had been taken suddenly ill with the symptoms of a severe attack of appendicitis he found an appendix merely congested, while the surface of the cecum was covered with fibrinous exudate containing streptococci and coli bacilli. A very careful histological examination of the appendix failed to show any lesions whatever. Other surgeons have reported cases of ulcerative typhlitis without any appendicular lesions. The symptoms being those of ordinary appendicitis.

The discussion upon para-appendicitis was continued at the meeting of February 7th. NIMIER referred to two cases of inflammation of the omentum which had been taken for appendicitis. There was presumably a relation between the epiploitis and the appendix, the appendix in his case seeming to be the starting-point for the infection.

BAZY called attention in 1895 to the part played by the cecum in inflammations in that region, but his views did not receive much consideration. Since that time many observations have been made in support of them. He mentioned one in which a girl of seventeen years entered the hospital with a tumor in the right iliac fossa. Operation revealed a mass of inflamed retrocolic glands, but no appendical lesion. In another case, an abscess was three times opened in the groin and once in the hypochrondrium, the starting-point of which was afterward proved to be the appendix.

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ALBARRAN once operated for gangrenous appendicitis and found in addition to the appendical lesions two gangrenous plaques upon the cecum, although the appendix was quite a little distance removed from them. In another case the posterior wall of the ileum was the seat of a very virulent inflammation, while the lesions of the appendix were of a slight degree only. These patients had presented the usual symptoms of appendicitis.

At the session of February 14th ROUTIER related the details of a case of abscess of the spleen consecutive to an appendicitis. It is not surprising that an appendicitis like other infective processes can produce abscesses at a distance. This is a different matter from cases of inflammation of the cecum in which the appendix is not involved. And yet those who have reported such cases have usually mentioned the fact that the appendix was somewhat inflamed, and in all probability it was the starting-point of the inflammation which in the cecum or ileum or paracecal glands became more violent. Too much stress should not be laid upon such variations from the normal type.

QUENU again affirmed his opinion that the facts mentioned were indisputable and deserved recognition. There are certainly lesions in the neighborhood of the cecum which develop independently of the appendix; at least one is justified in saying so, when the histologic examination of that organ shows that there is no erosion of the mucous membrane, and no lesion of the follicles.

REYNIER mentioned an instance in which he had cut down upon what he supposed was an appendicular abscess, and found that the appendix was not involved, but that the source of the pus was a mass of broken-down glands. In another patient, with symptoms of appendicitis, the lesion was found at operation to be a ureteritis.

DELBET said that he had once found a perforation of the cecum about 3 cm. (1.2 in.) from the base of the appendix. The symptoms were those of rapidly spreading peritonitis. The advantage of the term para-appendicitis is a questionable one. For his part he does not see why lesions which have nothing to do with the appendix should be called para-appendical.

At the Medical Society of the Hospitals, February 2d, PETIT spoke of the cure of two patients suffering from subacute tetanus, by the injection of antitetanic serum, and the administration of large doses of chloral. One patient who worked in a slaughter-house was wounded in the thumb. One week later he experienced pain and contractions in his arms, followed by trismus, opisthotonus and contractions of the muscles of the limbs and thorax. He was given one injection of antitetanic serum daily, and from 12 to 18 grains (3 to 4.5 drams) of chloral. A second patient, who was wounded by a plank in the scalp, and who did not develop symptoms for three weeks, was treated in the same manner. Both of these patients recovered, the first having received 590 c.c. (20 oz.) of serum in 21 days, and the second 560 c.c. (19 oz.) in 17 days.

MERKLEN and RENDU also mentioned cases in which the plan of treatment described had been followed by recovery.

VAQUEZ related a case in which small doses of the serum had failed to avert death, and said he considered that a fatal end might have been prevented had much larger injections been employed.

At the session of February 16th PAPILLON described the results of an autopsy upon a man who had died as the result of eating spoiled pâté de fois gras. Soon after the meal anurticaria broke out, followed by symptoms similar to those seen in cholera. The most important lesions were found in the liver and kidneys. In the former there were foci of parenchymatous hepatitis and an infiltration of yellow pigment into the hepatic cells. This pigmentation, probably of hemic origin, ought to direct attention to the blood in cases of alimentary poisoning. The epithelium of the kidneys was almost entirely necrotic, and the appearances presented by the organs were almost identical with those produced by virulent microbic toxins.

At the Society of Dermatology and Syphilography, February 1st, GASTOU showed a pregnant woman whose forearms were the seat of a well-marked prurigo. This affection recurred with each pregnancy and disappeared entirely in the intervals between them. The lesions were solely papular and recalled those of a parasitic prurigo. Prurigo gestationis is due to an autointoxication, as shown by the decrease in urea, chlorides and phosphates, and the presence of pigments in the urine. In selecting the treatment the doctor should bear this fact in mind. The patient should be kept in bed, and the utero-ovarian difficulties which so often precede the prurigo of gestation should also be treated.

SOCIETY PROCEEDINGS.

NEW YORK ACADEMY OF MEDICINE.—SECTION ON MEDICINE.

Stated Meeting, Held Tuesday, February 20, 1900.

John H. Huddleston, M.D., Chairman.

Lymphocytes in Typhoid Fever.—Dr. A. H. Gardiner read a paper in which he detailed his observations on the blood of typhoid fever patients and also those suffering from other diseases. His conclusions with regard to typhoid are as follows: Only very exceptionally does leucocytosis occur during the course of typhoid fever. Practically always there are fewer eosinophiles than normal in the blood of typhoid fever patients. Among the leucocytes the lymphocytes exceed in number the polynuclear white blood cells. The small lymphocytes exceed the large lymphocytes in number.

In discussion Dr. Adler said that the counting

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of the blood in detail as has been done by Dr. Gardiner would probably give us important data on the pathology and physiology of the blood. A number of important questions with regard to the blood are as yet undecided. It is not definitely known that lymphocytes give rise to the polynuclear leucocytes, nor is it clear where either of these forms of cells originates. Studies so far undertaken seem to indicate that the importance at present attached to phagocytosis is too great. Leucocytosis is not a reaction of the system for the elimination of irritants, but is a renewed activity of blood-making organs of white blood cells usually indicating a speedy return to health.

Membranous Colitis.—Dr. William H. Thomson read a paper on this subject. It will appear in a later issue.

Amœbic Colitis.—Dr. H. R. A. Graser made a report on three cases of amœbic colitis. One of them was a hotel-keeper, aged thirty years, who had never been out of New York City. He was having four to six rather liquid stools a day, foul-smelling, streaked with blood and containing a good deal of mucus. He had lost thirty pounds in weight, was suffering from night-sweats, although he had no cough and had never had any. His temperature and pulse were normal. He was treated by the mouth with resorcin for some days and improved so much that he considered himself cured. It was not long, however, before all his old symptoms recurred. Amœbæ were found very plentifully in his stools and he was put on appropriate treatment.

The second case was of a machinist, who had never been farther from New York than Staten Island. He, too, had lost considerable flesh and was suffering from frequent, foul-smelling, bloody and mucous stools. His abdomen was tender to the touch and he had considerable tympanites. Amœbæ were found in his stools. The third case had traveled in the tropics. In this case Charcot-Leyden crystals were found in the stools, as well as plentiful amœbæ. Others have reported these crystals as occurring in the stools in amœbic colitis.

The best treatment is calomel internally in divided doses continued for a number of days. Quinine seems to be the best local treatment. After an injection of quinine it is usual to find the amœbæ motionless.

It is extremely difficult with any certainty to recognize dead amœbæ in the stools. The stools should be received in warm vessels and should be examined as soon as possible on the warm stage of the microscope. The parasites will then usually be found in the mucous material on the surface of the fecal masses or in the midst of mucous bodies that occur here and there in the stools. Whether these parasites are really pathogenic or not is an open question. Experimentation on animals has not thus far succeeded in demonstrating their pathogeneity with any assurance.

There seems to be no doubt, however, that we have in temperate climates, and especially here in New York, an endemic colitis seemingly due to the amœbæ, or at least always accompanied by the presence of this parasite in the stools. The subject is deserving of further careful investigation.

Dr. H. Brooks reported eight cases of the disease from the fourth service of Bellevue Hospital. Four cases also were noted in private practice. The disease is evidently not rare in New York and is endemic. In six of the cases the infection seems to have taken place outside of New York City, but two of the patients were certainly infected here. The characteristic symptom of the disease is the presence of crampy muscular pains in connection with frequent ill-smelling stools. Cramp in the calves is especially noted. So much so that it has almost become the rule to look for amœbæ if a patient comes into the hospital complaining of cramps in the calves and increased frequency of stools.

Technic for Detection of Amœbæ.—It is very necessary if the amœbæ are to be kept active that the stools should not be allowed to become cold. For this purpose the bedpan should be kept warm. If the stools are acid when passed the acidity should be neutralized with sodium bicarbonate.

The slide on which the specimen is examined should be warm. Even after apparent death they may be aroused into activity by warmth. In the tissues the best stain is thionine. The intensity of the colitis is in direct proportion to the number of amœbæ that are present. Quinine renders the parasites non-motile.

Prognosis of Colitis.—Dr. Crooks said that the prognosis of the chronic form of colitis depends a good deal on the lesions that accompany the disease. For prognosis careful diagnosis is also necessary. Cirrhosis of the liver and Bright's disease, besides other constitutional conditions, sometimes gave rise to, or favor the progress of, a colitis and necessarily make the prognosis very unfavorable. For tubercular and carcinomatous colitis the prognosis is that of the underlying disease. Chronic dysentery as a rule is the opprobrium medicorum and it has not lost its terrors even with all our modern methods of treatment.

Treatment.—Dr. Kemp's tube for colonic injections was presented and described. The instrument should be introduced with a rotary movement, and if the flow stops the tube should be rotated until the flow is free again. If the outflow-tube becomes blocked the end of the tube attached to the syringe should be fastened to it so as to clear it out. The water should be allowed to flow back in a steady stream and not by gushes as there is some danger of injuring the mucous membrane at the end of the tube should it be sucked into the openings. The outflow may be made rebular by slight pressure on the outflow tube, the pressure being regulated according to the height of the injection desired.

Dr. Morris said that there are two conditions which by interference with the intestine may give rise to mucous or membranous colitis. A floating

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kidney, for instance, may so interfere with the colon as to cause a functional disorder. Enteroptosis is liable to produce the same effect.

Dr. Franklin said that in Central America, where colitis is quite common, internal medication is usually considered to do no good and local medication alone is employed. Where milder solutions do no good strong solutions are frequently employed. An injection of four ounces of nitrate of silver solution, of the strength of ten to twenty-five grains to the ounce, is sometimes employed with success where weaker solutions are ineffective. Morphine must be given some time before the injection in order to allow its retention. Since employing these strong solutions in very severe cases, Dr. Franklin has not lost a case and he has a good deal of confidence in this method of treatment. Despite its severity patients who have been benefited by this method once asked for it again. Quinine by injections has been found to do good, but is not so effective.

Amœbic Dysentery in Animals.—Dr. Graser mentioned the fact that Professor Quincke had recently published a series of observations on the effect of amœbæ on animals. He had found that there were two forms of the amœba, the *amœba mitis* and the *amœba fellis*. The amœba mitis or mild form is obtained from patients suffering from the endemic colitis of temperate climates. This form of the parasite is not pathogenic for cats. Large quantities of the stools from such patients may be injected into the intestines of cats without producing dysentery. The amœba fellis, on the contrary, is pathogenic for cats. It is obtained from patients suffering from amœbic colitis acquired in the tropics. This form of the amœba may be readily recognized by the fact that red blood-cells are found within it. When injected into cats this organism produces frequent bloody and mucous stools and finally leads to a fatal termination.

Dr. Adler said that in cases of dysentery admitted to the German Hospital the stools are always examined for amœbæ. Protozoic dysentery is much commoner than has been thought. The fauna and flora of the intestinal tract are not well known. It has become a text-book dogma that amœbic dysentery occurs only in the tropics. There is no doubt, however, that there is an endemic form of a protozoic dysentery here in New York. The amœbæ that occur on the Isthmus of Panama and in Egypt are very different from those found in the stools of patients who have never been outside the temperate zone. The endemic form of dysentery is not difficult to treat. Relief of symptoms is, however, much more frequet than permanent cure. Even after well-formed stools have been occurring for some time, amœbæ may be found in them. This is the secret of the frequent recurrences which take place. The best internal antiseptic is undoubtedly calomel. It invariably kills the amœbæ. None of the other intestinal antiseptics are as efficient. Salol, dermatol and tannalbin have been tried but without the good results obtained from calomel.

THE NEW YORK COUNTY MEDICAL ASSOCIATION.

Stated Meeting, Held Monday, February 19, 1900.

The President, Frederick Holme Wiggin, M.D., in the Chair.

The subject of the evening was a discussion on anesthetics.

Selection of the Anesthetic.—Dr. John A. Wyeth said that no one anesthetic was the most desirable for all cases. The anesthetic should be selected with due regard to the condition of each patient. No matter what the anesthetic, less of it will be required if morphine is given some time before. Chloroform has many advantages as an anesthetic, but the heart should be watched very carefully during its administration. Mere rapidity of pulse makes very little difference, but if cardiac irregularity develops the chloroform should be removed for a time at least, to see whether or not reaction to normal takes place promptly. If great pallor of the face develops the patient's head should be allowed to sink back below the level of the body, or the patient should be put in the Trendelenburg position. It is preferable to operate always on a table on which the patient may be readily put in this position. If the irregularity of the heart continues, or if other symptoms show that the patient resents chloroform after a careful trial, the anesthesia should be continued with ether. If there is any kidney trouble, after a few minutes of ether anesthesia chloroform may be resumed. The difference in the irritant effects on diseased kidneys of the two anesthetics is enough to justify one in trying every possible means to administer chloroform provided it can be done without serious danger to the patient. The greatest precautions will be required, however, and these cases demand a skilled anesthetist. If at any time during the administration of an anesthetic the pupils should suddenly dilate, the anesthetic must be stopped at once for some time. One of the great dangers of anesthesia is the bringing of patients under the influence of an anesthetic too suddenly. Fifteen or twenty minutes should be taken at least to bring a patient quietly under the influence of chloroform. Ether should not be administered through an open inhaler. The Allis instrument, for instance, is extremely objectionable because the air that is inspired is lowered greatly in temperature by the evaporation of the ether, and is carried directly into the lungs, where it is sure to be a source of serious irritation. Within the closed inhaler, as for instance the Ormsby apparatus, the air is continually reinspired and kept at a uniform temperature not very far from the temperature of the body, and the reinspired air produces a modified asphyxia which aids the ether in the production and maintenance of the anesthesia. This asphyxia can be controlled as well as any form of anesthesia, and is of great help. Where the closed inhaler is used patients

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come out from under the influence of the anesthetic sooner, there is apt to be less vomiting, and there is considerably less irritation of the respiratory passages than when the anesthesia is conducted by the open method. Considerably less ether is used by this method, and where there already exists any chronic inflammatory condition of the air passages, or any chronic nephritis, the irritation is proportionately less than by the other method.

Safety of Anesthetic.—For the tyro in the administration of an anesthetic, ether, as a general rule, is probably safer than chloroform. For the expert anesthetist chloroform is at least as safe. Where kidney trouble exists chloroform is to be preferred. Where chronic tuberculosis of the lungs is known to be present, or where chronic bronchitis exists, chloroform usually gives the best satisfaction. There are many who prefer ether where the heart is crippled. For abdominal operations chloroform is the best, because it produces less tendency to vomiting afterward. It should always be employed if the heart is not involved and its compensation seriously interfered with by chronic valvulitis or endocarditis. There is considerable danger in the use of chloroform after repeated attacks of rheumatism, or where arteriosclerosis exists or fatty degeneration is suspected. For alcoholic patients, as a rule, chloroform is preferable, because ether must be employed in very large quantities and even then may be ineffective. For children ether is the better anesthetic, although the text-books as a rule teach differently. Within the last few years Dr. Wyeth has seen three deaths in children under twelve from the use of chloroform where only minimum amounts of the anesthetic were employed. There is danger especially with poorly nourished children and those that are very much frightened by the anesthetic and struggle against its use. The anesthetic should not be forced on children if possible, but they should be persuaded into gradually coming under its influence.

Amount of the Anesthetic.—Dr. Thomas L. Bennett said that most of the dangers of anesthesia come from the use of more of the anesthetic than is absolutely necessary for the production of the condition of insensibility necessary for operative procedures. The amount of the anesthetic, no matter which one it may be, bears a direct proportion to the amount of shock, exhaustion, pulmonary edema, pneumonia, or nephritis that develops after the anesthesia. Ether is the most irritant of the anesthetics, must be used in larger amount and gives rise to most nausea and vomiting. Bronchial pneumonia is a complex affection, but is mainly due to the anesthetic. The aspiration of saliva in large quantities into the pharynx and from here into the lungs cannot but prove a source of infection. The pneumococcus exists very often in the mouth and is thus often drawn into the lungs, setting up an inflammation. In patients whose kidneys are affected before the operation, just as little as possible of the anesthetic should be used. About the age of puberty many children require a large amount of an anesthetic. The same is true for drinkers and for many nervous people. Certain operations require that the patient should be more deeply under the influence of an anesthetic and so necessitate an increase of the amount to be used. All operations on the rectum, on the urethra, and the perineum are of this kind. The amount of an anesthetic to be used in any given case depends to a large extent on the anesthetist. A skilled anesthetist will use must less than one who is unused to the administration of anesthetics. In 65 New York Hospital cases in which the amount of anesthetic and the length of the operation were carefully noted, 3732 minutes of anesthesia required 275 ounces of ether. The average length of the operation was 57 minutes, and the average amount of ether required was 4¼ ounces. As a general rule it may be said that about 4 ounces of ether will be required for the first hour of anesthesia and about 2 ounces for the second hour. Of chloroform about an ounce per hour will be required.

Nitrous Oxide for Long Operations.—Dr. S. Ormonde Goldan read a paper on the use of nitrous oxide and its modifications by mixture with carbon dioxide or pure oxygen for prolonged surgical operations. For a long time it was thought that nitrous oxide could not be used for anything but short operations, such surgical procedures as could be accomplished between the time of the removal of the anesthetic and the coming to of the patient. Of late, however, it has been found that where other anesthetics are contraindicated, nitrous oxide can be used even for lengthy operations. In abdominal operations it is often urged that nitrous oxide fails to produce relaxation of the abdominal walls. If the legs are flexed, however, the abdomen becomes thoroughly flaccid. Vaginal examinations can be accomplished in this way very satisfactorily under nitrous oxide anesthesia. For gynecological operations the failure to obtain complete relaxation of the abdominal walls is sometimes annoying. Nitrous oxide may be used until the incision of the peritoneum and then ether substituted. Nitrous oxide combined with carbon dioxide has certain advantages. There is apt to be less headache after the anesthesia than when nitrous oxide is used alone. Nitrous oxide is combined with oxygen to prevent cyanosis. It is often very difficult, however, to obtain complete anesthesia with this combination and great skill is required in the administration of the anesthetic. Some patients cannot be brought sufficiently under its influence to dull their sensibilities properly for surgical procedures. As a general rule it may be said that nitrous oxide is not more expensive than the other anesthetics. It has many advantages, especially for the beginning of anesthesia, and is less expensive than ether.

Ethyl Chloride as a General Anesthetic.—Dr. James P. Tuttle detailed his experience with this substance as a general anesthetic in 40 cases. He used the ethyl chloride for the beginning of the

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anesthesia and then substituted ether. He is able to produce insensibility in this way in from two to seven minutes. The ethyl chloride is sprayed on the lower surface of an Esmarch inhaler and given as ether is, then an Ormsby inhaler is used to continue the anesthesia with ether. There is no nausea nor vomiting after the anesthesia, and in only four cases was there failure to secure prompt insensibility to pain. In two the result was unsatisfactory. One of them was an anemic patient in whom the ethyl chloride did not take effect for twenty-five minutes and ether had to be substituted. In the other case after fifteen minutes of ethyl chloride ether was substituted, but in neither of these cases did the previous administration of the ethyl chloride seem to retard the effect of the ether. Two other patients, although susceptible to the ethyl chloride, proved absolutely insusceptible to the ether, and chloroform had to be administered to them. As a rule about ten to twenty c.c. of ethyl chloride were employed.

Complicated Inhalers.—Dr. Hobart Amory Hare of Philadelphia, present by invitation, opened the discussion. He said that the fad for complicated inhalers had come from London. Personally he is opposed to cumbersome apparatus which have no distinct advantage and have many decided disadvantages. The tube of the nursing-bottle is a good example. The new-fangled inhalers undoubtedly may prove as fruitful a source of infection and of pulmonary accidents as the fatal nursing-tube. For some of them sterilization is practically impossible because infinite precautions would be required. He is happy to say that the surgeons in Philadelphia seem to be perfectly satisfied with the simplest form of inhaler. Ether is probably the safest anesthetic, but it should be given with as much fresh air as is compatible with anesthesia. When ether is given by the closed method other factors enter into the result. The carbon dioxide from the unexpired air produces a certain amount of asphyxia and the patient is benumbed by the organic material which exists in the expired air and is reinspired. We now know that the danger of rebreathing air is not so much because of the larger percentage of carbon dioxide which it contains as because of the organic material thrown off from the lungs and which exists in the expired air in dangerous amount. This causes the heavy, drowsy feeling that occurs in badly ventilated rooms and is the source of the headache and nausea which is so often complained of when people remain for long periods in air that is not changed often enough. Bag inhalers seem unnecessary and unwise. There is too much routine in the giving of an anesthetic. A man accustomed to ether always gives ether; one accustomed to chloroform, always chloroform. The anesthetic should be selected according to the condition of the patient. Where the kidneys are affected chloroform is preferable to ether. It is surprising to hear Dr. Wyeth declare that chloroform is more dangerous for children than ether. Ether is certainly objectionable because it is more irritating to the delicate mucous membrane of the child and easily gives rise to capillary bronchitis. Fright is an important element in anesthesia in children and it is avoided to a great extent by the use of chloroform.

Vasomotors in Anesthesia.—The danger in giving an anesthetic seems to be mainly due to interference with the vasomotor mechanism. The patient may bleed to death in to his own blood-vessels. It is vasomotor palsy, not heart failure, that causes death. Dentists, who administer ether to their patients in an erect posture have more deaths during anesthesia, proportionately, than surgeons who administer it to recumbent patients. In a gynecological operation not long ago, the patient became pulseless, no apex beat could be felt and the heart was beating extremely irregularly and weakly. The ordinary measures did not revive the patient and a fatal termination seemed imminent. The abdomen was already open, and Dr. Hare suggested that the operator should grasp the abdominal aorta and compress it. This confined the circulation to the upper part of the trunk and head, and the patient began at once to revive. A similar attack happened a little later and again the patient was revived by this means. The vasomotor system is just as important as the heart, and a surgeon should be assured of its condition before anesthesia. Atropine is often recommended for its good effects during anesthesia, especially when chloroform is used, and the reason seems to be because it is a good vasomotor stimulant. An excellent precaution in very weak patients would be to apply an Esmarch bandage to the arms and legs and even a compress to the abdomen before anesthesia in order to made the blood stay in the head and thorax. Finally, it is to be remembered that the amount of an anesthetic given for the production of anesthesia in any given case depends to a large extent on the anesthetizer. If he is skilful much less can be used.

Precautions in Anesthesia.—It is sometimes said that the head of the patient should be well extended, hanging somewhat backward, because in this position the epiglottis is pulled forward. In this position, however, the soft palate presses down upon the tongue and makes breathing through the mouth difficult. If the head is put forward in the position assumed by athletes in running, the epiglottis is raised just as effectually as before and the soft palate does not press down upon the tongue. This position may be secured by turning the patient's head to one side. With the fingers to keep the jaw well forward and the head in this position, tongue forceps will not be needed as a rule and sore tongues will be avoided.

Morphine administered before the anesthesia often lessens the vomiting. If given with $^1/_{200}$ to $^1/_{100}$ of nitroglycerin there will often be no vomiting at all. Nitrous oxide is dangerous where atheroma exists. It is always a dangerous anesthetic in advanced life. Dr. Hare has seen a death from hemorrhagic apoplexy in a dentist's chair after nitrous oxide anesthesia.

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Anesthetics and the Kidneys.—Dr. Kemp said that the safest anesthetic, as far as irritation of the kidneys is concerned, is nitrous oxide mixed with oxygen. Where patients are old, however, and atheromatous conditions exist, nitrous oxide is contraindicated. Chloroform comes next in order in its lack of irritation of the kidneys. Ether is last and worst. Ether should always be administered after preliminary anesthesia with nitrous oxide. The A.C.E. mixtures and Schleich's mixture possess no advantages over the simple anesthetics so far as regards the irritation of the kidneys and they have all disadvantages of the separate constituents.

Safety of Nitrous Oxide.—Dr. Hasbrouck, a dentist, said that he has administered nitrous oxide some 95,000 times during the last forty years without a single fatal result. Patients go under the anesthetic almost imperceptibly to themselves and with a feeling of pleasure, not discomfort, if the anesthetic is properly administered. In over 500 cases he has administered the anesthetic for over an hour. Only in very exceptional cases is there an idiosyncrasy for nitrous oxide which makes its use as an anesthetic impossible. It is important for successful anesthesia that the tubes leading to the inhaler mask should be of good size. As a rule they are made too small and the gas is not supplied fast enough to maintain anesthesia. The tubes should be at least as large as the human trachea and should not be closed by cumbersome valvular mechanism.

Chloroform vs. Ether Mortality.—Dr. Dawbarn said the trend of Dr. Hare's remarks had been something of a surprise and he would devote his five minutes to a partial reply. Dr. Hare had strongly disapproved of the air-bag inhalers for ether, and advised adhering to the use of the towel-and-paper cone, or to the Allis inhaler. Also, by his obviously strong approval of the Philadelphia use of ether only, and disparagement of chloroform, he invited inevitable and unfortunate comparison with other cities. In London, New York, and many other surgical centers it is now understood that the Clover air-bag principle is by far safer than the towel-and-paper, or Allis or other open contrivances. This safety is due to the fact that the ether is rebreathed and promptly warmed up—thus avoiding ether pneumonia, due to chilling the lungs. The carbon dioxide anesthesia which meanwhile is added is a safe form and, as Dr. H. C. Wood has pointed out, is not objectionable. In addition, the closed-bag principle permits anesthesia with very little ether and consequently the kidneys and other organs are much less irritated. Dr. Hare's assertion that as much ether is actually taken up and held in the body by the closed bag as by the open method is plainly seen to be absurd, when we remember that by the latter plan the ether smell can always be noted for at least twenty-four hours upon the breath; while by the former method its odor disappears several hours earlier.

The famous von Nussbaum stated that he had in his long experience used, or seen used, chloroform forty thousand times without a death. And if this be true, a death from this cause implies improper training as an anesthetist. On the other hand, we have the recent and startling statement by Dr. Kemp, with Prof. Thomson, President of the Academy of Medicine, and published in the *New York Medical Journal* to the effect that his study of the vital statistics for a year past in one of the largest and best of the New York hospitals showed one death in each nineteen operations, from ether suppression of urine, *post-operationem*, where the urine beforehand had been tested and found normal! This is a frightful statement. Towel-and-newspaper cones and Allis inhalers were used during this period—and seem responsible for such soaking of the kidneys with ether. It seems likely that a closer study of death-causes in all hospitals would surprise the profession in this regard. Since that time Dr. Kemp has made a similar investigation in a second large hospital, with a practically identical result. It seems fair to say that when at an Academy meeting Dr. Kemp made the above statement, a surgeon of the hospital arose and denied the accuracy; whereupon Dr. Kemp was ready with all the data, the name, page of history-book, date, etc., and no more rebuttal against him was ventured.

I think it is something of a disgrace to our profession that now, some sixty years after the introduction of anesthesia, there should be a difference possible as to the wisdom of using, prior to major anesthesia, alcohol, and a little morphine guarded by atropine. For many years past this has been a routine plan; and to it, as much as to the closed bag in ether cases, is attributed the patient's invariable safety from anesthesia death. There are two or three reasons for this practice: First, all these drugs are analgesic; hence less ether or chloroform will be needed; hence less danger of poisoning from them. Again, all these drugs are supportive to the heart, and tend to prevent shock; the atropine is an excellent vasotonic stimulant—as Dr. Hare also agrees—and finally, but by no means least important, a patient so prepared goes to the table in quite a calm, almost cheery frame of mind, instead of one of agitation and fright.

If, as Dr. Hare has said, this fright deals death to the high-bred dogs subjected to the knife, how much greater is such terror a factor among human beings! We ought never to forget this. It is a most important cause of deaths during the early stages of anesthesia; perhaps is even the chief factor; and to make our patients calm and courageous is to add greatly to their safety while being anesthetized.

Ether and Suppression of Urine.—Dr. Bodine recalled the fact that Professor A. H. Smith had found on mixing acid, urine and ether that a gelatinous material resulted. It is perhaps the formation of this gelatinous material in the kidney tubules that causes their mechanical occlusion and so leads to suppression of urine. This gelatinous product does not result if the urine is

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alkaline. It is well, then, before the administration of ether as an anesthetic to make the urine alkaline. There is no doubt that some people are made much less resistant to the shock of operation by the fright which they feel at the prospect of the operation. It has often been noted that people who suffer from a severe accident, which they foresaw for an appreciable time before it occurred, suffer much more from shock than, for instance, those who get hurt in sleeping-car accidents and who consequently have no chance to anticipate the danger. A preliminary dose of morphine allays this fright and so makes the anesthetic safer. In obstetrics there is no fright; the pain to come is looked on as only natural. Hence the better statistics of anesthetics in obstetrical practice.

Schleich's Mixture.—Dr. Maduro insisted that much of the unpopularity of Schleich's mixture is due to the objections of those who have had no practical experience with it. In a large number of cases the mixture has been used successfully and no deaths have been reported from its use. The serious symptoms which develop are not as alarming as those of chloroform or ether, and it is always easier to restore the patient. Meltzer disagrees completely with Schleich's observation in the matter of the effect of the anesthetic. It is a question of the authority of either investigator, but the subsequent observations made by Meltzer do not invalidate Schleich's original conclusion.

In concluding the discussion Dr. Hare said that it was not so much the amount of ether used as the amount of irritation it produced that harmed the patient. In the closed inhaler ether is breathed and rebreathed a number of times; naturally, less ether is used than by the open method. But if one ounce of ether is rebreathed ten times it produces as much irritation as ten ounces of ether breathed but once. With regard to the safety of anesthetics during parturition it must be remembered that pain is a stimulant to the vasomotor system and, consequently, there is less danger in anesthesia while labor-pains are in progress. As Professor Wood's opinion had been quoted in the present discussion, and as one of the speakers had insisted that the question of anesthesia was for the surgeon and not for the medical man who knows the theory but not the practice of the subject, he begged leave to be allowed to quote another of his Philadelphia colleague's expressions. When asked on the witness-stand what was the difference between a physician and a surgeon, Professor Wood said: "A physician is a man who works with his brain; a surgeon one who works with his hands."

REVIEWS.

Transactions of the Luzerne County Medical Society for the year 1899. Published by the Society, 1900.

We have before us a very neatly compiled and bound number for the year 1899, which does credit to the editors and authors. Chief among the articles is one on cancrum oris with a description of the condition, written by Dr. James Brooks. He cites a case of recovery from this condition after a plastic operation had been performed. An article on cancer well merits the perusal of the reader, and the author's conclusions are well in accord with the most advanced theories on this topic. Dr. Wm. G. Weaver, the writer of the article, states that (1) cancer is a disease produced by a parasite; and is a communicable or infectious disease; (2) the hereditary idea of the production of cancer is no longer tenable; (3) cancer being an infectious disease, all the usual precautions against infection should be observed; (4) cancer is not only infectious, but autoinfectious and in operations for the removal of cancerous growth, the possibility of infection should be constantly borne in mind. Besides a very interesting address of the retiring President, Dr. John Harris Jones, on "Some Stray Thoughts In and Out of Medicine," there are further important essays and contributions on pneumonia, empyema, leucemia, Parkinson's disease (paralysis agitans), serum test for typhoid fever, mastoid disease, and general medical topics.

Transactions of the American Ophthalmological Society. Thirty-fifth annual meeting. New London, Conn., July, 1899. Hartford: Published by the Society, 1899.

Although nothing startlingly new was presented, the meeting of 1899 was quite successful, 68 members being in attendance and 21 papers being read. The report is a profusely illustrated volume of 125 pages. The papers which excited most discussion were one by Johnson of Paterson, on the extraction of iron particles from the eye by means of the electro-magnet, and one by Williams of Boston, on more uniform tests of acuteness of vision, color sense, and hearing. Thompson of Philadelphia, and Dennett of New York were appointed a committee to report at the meeting of 1901 on the matter of standards and the best methods of making examinations of sight and hearing with particular reference to the marine and railway services.

Operative Surgery. By Joseph D. Bryant, M.D., Professor of the Principles and Practise of Surgery, Operative and Clinical Surgery, in the University and Bellevue Hospital Medical College; Visiting Surgeon to Bellevue and St. Vincent's Hospitals; Consulting Surgeon to the Hospital for the Ruptured and Crippled, Woman's Hospital, and Manhattan State Hospital for the Insane; Fellow of the American Surgical Association; former President of the New York Academy of Melicine; President of the New York State Medical Association, etc. Vol. I., with 749 illustrations. New York: D. Appleton and Company, 1899.

The fact that the third edition of this well-know treatise more than doubles its size, neces-

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sitating its division into two volumes each as large as the original one, is indicative not only of the growth of an individual work, but is also significant in that it shows in a striking manner the advances recent years have seen in the development of the purely technical side of surgery. While the work of the pathologist and bacteriologist has been illuminating many of the more obscure corners of the science and exposing to the day-light of definite knowledge what formerly was accessible only to groping empiricism, the operator himself has not been less industrious than his aides and each advance in the understanding of etiology and morbid anatomy has been quickly supplemented by some improved diagnostic or operative measure.

In no other section, perhaps, is this more evident than in the field of brain surgery. For example, while in the first edition of this manual fifteen pages were sufficient to cover the entire matter of the surgery of the nervous system, in the present one nearly one hundred are given to the same subject. In a similar way the chapter on plastic surgery has been almost doubled and, in fact, the book is practically an entirely new one based simply on the skeleton of the old. The illustrations are unusually numerous and well selected; a novel and interesting feature is the grouping for each of the more important operations in a single photograph of all the instruments needed in performing it.

This volume considers General Principles, Anesthetics, Antiseptics, Control of Hemorrhage, Treatment of Operation Wounds, Ligature of Arteries, Operations on Veins, Capillaries, Nervous System, Tendons, Ligaments, Fascia, Muscles, Bursæ, and Bones, Amputations, Deformities and Plastic Surgery, and the pleasure it inspires causes one to look for the appearance of the second with much interest.

The Principles and Practice of Modern Surgery. For the use of Students and Practitioners of Medicine and Surgery. By JOHN B. ROBERTS, M.D., Professor of Anatomy and Surgery in the Philadelphia Polyclinic; Mütter Lecturer on Surgical Pathology of the College of Physicians of Philadelphia. New (2d) and revised edition. Octavo, 838 pages, with 474 engravings and 8 plates in colors and monochrome. Philadelphia and New York: Lea Brothers & Co., 1899. (Price, $4.25.)

THE purpose of the author of this work is to give to the profession in a condensed form the accepted doctrines and approved procedures of modern surgery. About one-fifth of the volume is devoted to surgical pathology, asepsis and surgical technic. In the second part the surgical diseases and injuries of the various portions of the body are systematically considered, usually under the three headings "pathology," "symptoms," "treatment." In every chapter it is evident that the writer has had constantly in mind a resolve to make this volume an every-day help to the surgeon, for he has given special attention to "treatment," and his directions are clear, concise, and easily understood.

The subjects treated make up the whole of general surgical practice, and the student who masters this book will have an up-to-date knowledge of surgery. The weak point of a revised book usually is that so much of the old remains, even although obsolete. Dr. Roberts has pruned with a free hand, and as a result he has saved himself from this criticism. The articles on Appendicitis, Diseases and Injuries of the Joints, Diseases and Injuries of the Genito-Urinary Organs, Dislocations, Excisions and Amputations, have been entirely rewritten.

The book is profusely illustrated, as the author has not hesitated to draw upon the latest surgical works of America and Europe for their best drawings, to which he has added many new ones of his own, including several radiographs.

The Trained Nurses' Directory. Composed of Names Carefully Selected by Prominent Physicians and Surgeons of New York and Vicinity from Their Private Lists. Compiled and Edited by M. Louise Longeway, Graduate of the New York Training School, Bellevue Hospital. Sixth Edition. 1899.

THIS handy memorandum book serves a number of useful purposes. It contains a classified list of graduates of the various training schools in and about New York, with lists of graduate trained nurses practising in Albany, Pittsfield, Hartford, New Haven. The addresses are given where the nurse may be found and if special nursing is done this in indicated. Lists of masseurs, medical stenographers and type-writers, street lists of New York and Brooklyn, obstetrical tables, office nurses, registers and nurses' homes and the training schools of New York and Brooklyn are presented in small compass. The work should find a useful place in the world of reference books.

Refraction and How to Refract. Including Sections on Optics, Retinoscopy, the Fitting of Spectacles and Eye-Glasses, etc. By JAMES THORINGTON, A.M., M.D., Adjunct Professor of Ophthalmology in the Philadelphia Polyclinic and College for Graduates in Medicine; Assistant Surgeon at Wills' Eye Hospital, etc. Two Hundred Illustrations, Thirteen of which are colored. Octavo. 301 pp. P. Blakiston's Son & Co., Philadelphia, Pa.

THIS book is the result of the author's lectures on Refraction at the Philadelphia Polyclinic, and is written (the preface states) "for beginners in ophthalmology, especially for those with a limited knowledge of mathematics." It is an attractive volume, numerously illustrated.

It begins with a chapter (about 50 pages, with many illustrations) devoted to a clear and elementary discussion of optics, which is followed by another on the standard eye, accommodation, convergence, and the angle gamma and alpha; then come chapters on the ophthalmoscope, the

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various refractive errors, retinoscopy, muscles, cycloplegias, "How to Refract," and applied refraction.

There is much useful information contained in the book, which is quite practical. It will be found of great assistance to those who are taking courses on refraction at our clinics, or who desire to acquaint themselves with the various methods of examination in this important department of ophthalmology.

A Text-Book of the Practice of Medicine. By JAMES M. ANDERS, M.D., Ph.D., LL.D. Third Edition. Revised. Philadelphia: W. B. Saunders, 1899.

THE popularity of this work among students and practitioners is evinced by the fact that three editions have appeared within two years. The second edition, issued less than a year ago, did not receive any notable revision. This, the third edition, however, has been quite extensively revised, especially in the section relating to Infectious Diseases. The following subjects not found in the previous editions have here found a place, to-wit: Glandular Fever, Ether-Pneumonia, Splenic Anemia, Neuralgia Paræsthetica, and Periodic Paralysis. The subjects of the Plague, Malta Fever, the Diseases of the Thymus Gland, the Cirrhosis of the Liver, and Progressive Muscular Atrophy have been practically rewritten. The introductory chapter on the Diseases of the Nervous System, dealing with localization and methods of investigation, is also new. Six new illustrations have been added. There can be no doubt that the work has been improved by these additions and alterations. The revisions have brought the subjects up to date.

The popularity of the book is doubtless due to the facts that the subjects are adequately described, clearly and succinctly presented, and offer to the student the facts of disease in an accessible and ready manner.

The Rise and Development of the Liquefaction of Gases. By WILLETT L. HARDIN, Ph.D. New York: The Macmillan Co., 1899.

THE volume before us treats in a most exhaustive manner of the history of the development of this branch of science, both as regards the theory and the methods employed in the liquefaction of gases. Both the practising physician, as well as the histologist and other research workers, are constantly using compressed or liquefied gases, such as oxygen, nitrous oxide, carbonic acid (for freezing fresh material to be cut by the microtome), and other gases, and it may be of interest to them to consult this work in order to inform themselves upon the processes of their manufacture. The recent methods adopted by Professor Dewar for the liquefaction of oxygen, air, nitrogen, etc., are also most ably discussed.

The last chapter deals mostly with the discussion of the physiological action and effect of low temperatures, the work of Cohn, Melsens and others on the action of low temperatures on bacteria and ferments being dwelt upon, the uselessness of low temperatures for sterilization being especially pointed out. The effect of low temperatures upon rabbits and frogs is also cited, and the investigations of Pictet and Dewar are briefly sketched. The book is well arranged and furnished with a most comprehensive index.

General and Local Anesthesia.—By AIME PAUL HEINECK, M.D., Clinical Instructor in Genito-Urinary Diseases, College of Physicians and Surgeons, Chicago; Clinical Instructor in Gynecology, Chicago Clinical School; Clinical Instructor in Surgery, Northwestern University Woman's Medical College. C. P. Englehard & Co., Chicago, 1900.

THIS monograph consists of 125 pages, devoted about equally to general and local anesthesia. It is arranged in two chapters, and comprises subdivisions or headings, as, the general use of chloroform and ether only; in obstetrics, for diagnostic, surgical and therapeutic uses; the selection of the anesthesia; posture and preparation of patient; rules for the administration of chloroform and ether, and precautions before and after; treatment in cases of accidents; methods of applying local anesthetics; the use of cocaine in the nose and throat; in genito-urinary surgery; precautions in cocaine anesthesia; and infiltration anesthesia and its technic.

The book abounds in many practical hints. The subject of anesthesia by nitrous oxide, however, either alone, or with oxygen, or to precede ether, is entirely omitted. The use of this important anesthetic is too important to be passed with simple mention. The chapter on local anesthesia is excellent, practical, and complete.

THERAPEUTIC HINTS.

Oil for Pyloric Stenosis.—Cohnheim reported a case seen in Boaz's clinic, in Berlin, of dilatation of the stomach apparently due to stenosis of the pylorus following traumatism (contusion of the abdomen, probably causing rupture of the mucous membrane, an ulcer, or hematoma of the gastric wall) in which the patient was completely relieved by taking linseed oil. He suffered from sharp gastric pain and vomiting, and presented all the symptoms of dilatation; lavage had done but little good. On the advice of a friend he began to take a wineglassful of oil morning and evening, after eating. He improved uninterruptedly, the vomiting ceased, and after five weeks of this treatment he was completely cured, and able to dispense with the oil except after a specially heavy meal. Cohnheim assumes that the oil facilitates the passage of the food into the duodenum by lubricating the mucous surfaces, and also lessens the irritation of the pylorus, to which its spasmodic contraction is due. He now advises trying similar treatment before resorting to operation in such cases.

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ORIGINAL ARTICLES.

SUPRARENAL THERAPY.

BY W. H. BATES, M.D.,
OF NEW YORK.

WHEN we say, as I did in my first paper, that the aqueous extract of the suprarenal capsule is a powerful astringent, or when we say as I shall this evening that it is an ideal heart tonic, we fail to convey its true action. If we seek for words adequate to express in the scientific language of the day the unique action of this drug, the difficulty is to confine it within the lines of division placed by therapeutists and we long to drop the attempt, and exclaim with the patient, "Marvelous!" When we investigate either the physiological action or the therapeutic application of the active principle, we find that rules which have been considered immutable and principles fundamental are set aside when their action would be undesirable. For example, we expect a great dilatation of the blood-vessels to follow a powerful contraction. Of 2000 cases noted in which the suprarenal produced this contraction, the expected dilatation did not follow in one case, and, furthermore, it is a rule that when a minute dose of a drug causes an immediate and powerful effect, that drug is a poison. One two-hundredth of a grain of the extract locally applied will in a fraction of a minute replace the redness of certain inflamed eyes with a condition whiter than normal, and the suprarenal extract is not a poison. No untoward effect has ever followed the local or internal administration of the untainted gland. Two pounds of the fresh suprarenal capsule in the form of an aqueous extract have been swallowed without any apparent ill effects.

The extract when instilled into the eye is non-irritating. Its effect is temporary. A tolerance is not established by its daily use for months. It is not cumulative like digitalis. A suprarenal "habit" is not induced. The extract has no direct effect on the nervous system. The pupil is neither dilated nor contracted by it and the accommodation is not paralyzed. It is not an anesthetic.

When the extract is applied continuously to the healthy skin the parts are whitened after some time, usually in half an hour. If the epithelium be removed the extract whitens the skin in less than one minute. This effect is temporary. When the extract is administered hypodermatically the skin is blanched a dead white immediately and may be incised without primary hemorrhage. The suprarenal is an astringent of other tissues in addition to mucous membranes and the skin. The normal blood supply of the peritoneum, muscle tissue, brain and connective tissue, is lessened temporarily to a marked degree by the local use of the extract. All inflamed tissues are benefited. Granulation tissue is whitened and contracted. Velich lessened the blood supply of sarcoma in rats by the local use of the suprarenal.

Of great importance is the fact that the effects obtained by the local use of the extract can be obtained, although to a less degree, by the internal administration of this remedy. I have seen congestion of the eye, ear, nose, larynx and thyroid gland become decidedly less three minutes after the patient swallowed five grains of the dried gland. Congestion of the lungs, heart, liver, kidneys, bowels, brain, and cord, have been also promptly relieved.

Suprarenal Preparations.—The pulverized dried gland keeps indefinitely and can be readily obtained. For local use in the eye a *fresh* aqueous extract should be prepared by mixing one part of the dried gland with ten parts of water. The mixture is allowed to stand five minutes and is then filtered. The filtrate contains about one per cent. of the active principle. This solution may be sterilized by heat. Chemicals do not preserve the extract in solution without impairing its astringent property in the eye. The solution spoils in a few hours and has then caused infection of the eye and nose.

An *emulsion* of the powder in water has been used in the nose and urethra with benefit. It also must be freshly prepared.

Chemical Properties.—The suprarenal extract is very soluble in water, insoluble in strong alcohol, ether and chloroform. It is a strong reducing agent. The aqueous solution gives with ferric chloride an emerald-green color, and with solution of iodine a beautiful rose-carmine tint. An alkaloid has been isolated by Abel and Crawford, which they have called "epinephrin." It has the properties of the aqueous extract when used in the eye, ear and nose, and has the great advantage over the aqueous extract that it does not spoil readily when in solution.

Physiological Properties.—Oliver and Schäfer[1] find that the extract increases the tone of all muscular tissue. The intravenous injection of minute doses raises the blood-pressure enormously while larger doses of digitalis and ergot produced no appreciable effect. Cleghorn[2] experimented with the isolated dog's heart and found that the strength of the contractions were doubled by the suprarenal, which he believed

[1] Read in part before the New York County Medical Society, February 26, 1900.

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acted directly upon the heart-muscle. Dreyer[3] found the active principle in the suprarenal vein, and believed it to be a true internal secretion.

When the suprarenal is administered hypodermically, or by the mouth the effects are different from those obtained by the intravenous method when employed on animals. The blood-pressure is not appreciably raised in the normal individual. When the heart is weak it becomes stronger. I shall refer to this later.

Nost and Throat.—The astringent and hemostatic properties of the suprarenal in diseases of the eye suggest its use in diseases of other mucous membranes. The mucous membrane of the nose is whitened in less than one minute by the local application of the aqueous solution of the extract. This result always occurs. It facilitates examination of the nasal chambers by reducing temporarily swelling of the mucous membrane covering the turbinated bodies and the septum.

It is an adjuvant to cocaine in securing anesthesia. Better results are obtained after the use of the cautery when the parts are first blanched and shrunk with the extract. All forms of tonsillitis are temporarily relieved by the local use of the extract. Congestion of the mucous membrane of the larynx is temporarily relieved also. I do not believe the extract cures any disease of the nose or throat. Its great value is in changing a severe inflammation into a very mild one, so that the usual remedies are better able to cure.

The extract relieves congestion of the nose and throat by the internal administration. In acute rhinitis the swelling of the turbinated bodies has subsided in three minutes after the ingestion of five grains of the dried gland. The pain of tubercular laryngitis has been temporarily relieved in the same manner, the extract lessening congestion of the larynx.

Hay-Fever.—The suprarenal has been used with great benefit in many cases of hay-fever. After the local use of the fresh aqueous solution, the nose opens, the discharge stops and the patient feels comfortable in five minutes. The effect is temporary and the remedy has to be applied frequently, in some cases every two hours. The disease then becomes less severe and the extract is required less frequently. The internal administration is also followed by relief. Cohen, Douglass and others have reported marvelous cures with the suprarenal. See also an excellent paper by H. L. Swain.[4]

Eye Diseases.—My original observations on the therapeutic properties of the suprarenal extract were made in the treatment of diseases of the eye. I have found it of great value in lessening the congestion of conjunctivitis, keratitis, iritis and scleritis. Although the suprarenal is not an antiseptic it has been of great service in purulent inflammations of the conjunctiva and cornea by relieving congestion. It gives tone to the blood-vessels and strength to the heart, thus increasing the resistance of the tissues to the invasion of germs. I believe that I have saved the sight in some cases of purulent keratitis with the extract which without it would have been lost. All my clinical observations of the action of the suprarenal have been of diseases of the eye, ear, nose and throat, my work being entirely in this field. The eye furnishes excellent opportunity for the study of the results and limitations of the action of any drug used locally. In addition to its action in catarrhal and purulent inflammations, the suprarenal is valuable in hastening the absorption of connective tissue which follows these inflammations. I have studied the long-continued use of the extract, in addition to other astringents, in the treatment of opacities of the cornea. Examining with the glass the minute blood-vessels usually found near the opacity are seen to become smaller after the extract has been instilled; coincidentally, the vision is improved. The long-continued contraction of these blood-vessels is followed by absorption of the connective tissue. By the use of this treatment in a recent case of corneal opacity the vison was improved from $^1/_{10}$ to the normal in three months and the corneal opacity disappeared. In those cases of lachrymal stricture and abscess of the sac, in which an operation is required to obtain relief, I have usually been able to cure the disease by the use of the suprarenal supplemented by other local treatment without the use of the knife. I do not believe any words of mine can adequately describe the effect of the extract in such cases. One patient had an acute abscess of the sac with so much swelling that the eyelids were closed. The pain was severe. I syringed the extract frequently into the punctum until, the congestion being relieved, I could press out the pus. In five minutes the nasal duct was open and the abscess drained. The redness, swelling and pain disappeared after the frequent use of the extract for twenty minutes. The patient was cured. In other cases immediate relief was obtained, but the patients were not cured until after some time. Strictures of the nasal duct caused by congestion were opened by the powerful astringent property of the extract and were cured without operation.

After operations on the nasal duct the extract is of great service in lessening congestion during healing. In operations for the cure of lachrymal stricture the extract is of great benefit in securing a painless operation with cocaine, and in lessening hemorrhage. I have in some cases been able to operate bloodlessly. The great value of the extract in lachrymal stricture suggested its use in the treatment of strictures in other parts of the body. I have been told that some urethral strictures were benefited by the astringent property of the extract, and the hemorrhage which usually occurs after internal urethrotomy has been materially lessened by its local use.

The internal administration of the suprarenal lessens congestion in diseases of the eye, although the results are not so decided as when the extract is used locally. In one case of chronic glaucoma the tension was lowered and the vision improved.

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The following case of optic neuritis was benefited by the internal administration of the suprarenal:

A woman under treatment for syphilis developed at the same time optic neuritis with a loss of vision. The suprarenal powder was prescribed, gr. iii, t.i.d., which was followed by a marked improvement in her vision. Later the suprarenal was stopped and the vision became worse. When the suprarenal was resumed, the vision improved at once and is now normal. She is still taking the mixed treatment.

Ear Diseases.—The extract when applied to the orifice of the Eustachian tube in the vault of the pharynx lessens the congestion of the drum membrane and of the middle ear in acute and chronic catarrhal otitis media. The tinnitus is lessened and the hearing improved. This effect, however, is temporary. I have been able to improve the hearing in some cases of sclerosis with the extract which were not benefited by politzeration. To obtain permanent benefit it was necessary to employ other treatment with the suprarenal. During the past winter I have found the internal administration beneficial and now prescribe it in all my ear cases which suffer from congestion.

Hemostatic Properties.—The suprarenal is the best hemostatic known. It acts by contracting the small arteries and has no chemical or other effect on the blood itself. I have controlled severe nasal hemorrhage in a "bleeder" by syringing the nose freely with an emulsion of the powder after peroxide of hydrogen, sulphate of iron, gelatin, antipyrine, and cotton plugs had failed. The hemorrhage is stopped promptly, usually in less than three minutes, when the parts can be reached. Since the suprarenal is non-irritating and does not form clots, as does iron, it is not an objectionable hemostatic. Bloodless operations are performed on the eye and nose when the parts can be blanched white. If large veins are seen and opened, hemorrhage naturally follows. This can be controlled by the extract. Secondary hemorrhage is lessened by the extract. The extract does not prevent secondary hemorrhage after lachrymal operations. One may expect secondary hemorrhage after nasal operations when the bone is laid bare. The hemostatic effect of the suprarenal is temporary, and it may be necessary to use it every two hours for a number of times before the hemorrhage finally ceases. I am well pleased with the hemostatic property of the freshly-prepared suprarenal.

Dr. Moschcowitz controlled urethral hemorrhage in a case of hemophilia and there was not any secondary hemorrhage. Otis has used the extract with success in controlling hemorrhage from the bladder. Dr. T. P. Berens has used the extract with cocaine hypodermatically and performed a bloodless plastic operation. Dr. J. A. Mullen used the extract hypodermatically on a patient under ether and prevented hemorrhage during a plastic eyelid operation. Dr. J. A. Moore has also used the aqueous solution hypodermatically to lessen hemorrhage after cutting the meatus. I wish to caution all operators to use a freshly prepared aqueous solution because the hypodermatic use of the spoiled extract, while it blanched the skin a dead white, caused in one case a rise of temperature to 104° F., with other disagreeable symptoms. The aqueous extract has spoiled in one hour.

Addison's Disease.—The suprarenal has been used with benefit in this disease. The literature on this subject is very extensive

Asthma.—S. S. Cohen has used the suprarenal with benefit in some forms of asthma.

Exophthalmic Goiter.—I believe that S. S. Cohen[5] was the first to publish the results of treatment of exophthalmic goiter with the suprarenal capsule. G. W. Crary[6] also has observed improvement in the action of the heart, the tremor, the general muscular strength, and a disappearance of the goiter. Dr. E. Danziger furnished me with the notes of the following case of exophthalmic goiter, in which the suprarenal gave immediate relief: Girl, aged fourteen years, for six months had suffered from discomfort around her throat, palpitation of the heart, throbbing of the carotids and abdominal aorta, with shortness of breath after slight exertion. The thyroid gland was enlarged; the circumference of the neck was twelve inches; the heart sounds were normal; the pulse beats were 120 in a minute. The dried suprarenal was prescribed, gr. ij, t.i.d. When the patient was seen two days later the pulse was 88 per minute, the throbbing of the large arteries was relieved, and the shortness of breath had disappeared. The gland was less swollen and the circumference of the neck had diminished one inch, being now eleven inches. When after two weeks the suprarenal was stopped a relapse followed. When the suprarenal was resumed, the patient again improved. Dr. Danziger had two cases of parenchymatous or cystic enlargement of the thyroid, without general systemic disturbance, in which the suprarenal produced no immediate, apparent benefit. The following case of exophthalmic goiter was benefited by the suprarenal, the general circulation being improved:

A woman with exophthalmic goiter had a jerky pulse of high tension with a labored heart. After five grains of suprarenal were administered the heart's action improved, the throbbing of the arteries diminished, and the pulse became softer and more like normal. The frequency of the pulse was 90 immediately before the administration of the suprarenal; one hour afterward it had not changed. The swollen thyroid gland became softer and the circumference of the neck became one-half inch less in ten minutes.

Heart-Disease.—When the suprarenal extract is instilled into the eye, frequently, enough is absorbed to affect the general circulation as well. I have observed a weak, intermittent pulse of organic heart-disease become strong and regular with relief of the subjective symptoms after the instillation of a one-per-cent. solution of the ex-

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tract every two hours in the eye. This case was seen six years ago. Since then the extract has been used in the eye in other cases of heart-disease with benefit. At first it was feared that a remedy so powerful for good would be equally powerful for harm, and that in some cases of heart-disease the use of the extract in the eye would injure the heart. I have looked for the cases in which the extract was contraindicated, but have not found them. It seemed so important to understand the action of the suprarenal on the heart that I made clinical observations of the pulse in all my eye cases with heart-disease in whom the remedy was used. Recently I made some sphygmographic tracings of the pulse before and five minutes after the administration of five grains of the pulverized gland by mouth in twelve cases of organic heart-disease. My conclusions agree with those of Oliver and Schäfer, Valentine, Cleghorn, Boruttan, Greenbaum, Cunningham, Kinnicutt, and others, and are as follows: (1) The internal administration of the suprarenal does not affect the normal heart or normal blood-pressure, or the normal pulse in organic heart-disease. (2) An intermittent pulse becomes regular. (3) A weak pulse becomes stronger. (4) A rapid, weak pulse becomes less rapid and stronger. (5) When anemia or hyperemia of the vessels of the face and of the extremities is present, the administration of the suprarenal is followed by a return to the normal because the increased strength of the heart-beat equalizes the circulation and, consequently, the distribution of the blood to all parts of the body. (6) The action of the suprarenal is temporary. (7) The extract of the suprarenal capsule is the most powerful known stimulant of the heart.

The effect of the suprarenal on the normal blood-pressure by the internal administration has been studied by Grünbaum[7]. He used Oliver's sphygmodynamometer and in no case was there an appreciable rise of blood-pressure even after the ingestion of thirty grains of the dried gland. Kinnicutt[8] has used the adrenals in a few cases of heart-failure, with apparent benefit. Oliver[9] has seen benefit where the vasomotor tone is lowered, as in asthenia and anemia, from the internal administration of the suprarenal. In cyclic albuminuria he also states that he has obtained good results with this drug. (See also "Pulse Gauging," by G. Oliver.) E. O. Hultgren and Oskar A. Anderson[10] found, like Gottlieb, that when the heart's activity was reduced by chloral, an injection of the extract greatly strengthened it. The following case was temporarily relieved after digitalis and some other treatment had failed:

A man, aged sixty years, had general arterial sclerosis with a double aortic and double mitral murmur. The patient was in bed, too weak to rise. I was unable to feel his pulse at the wrist. His hands were cold. He was given five grains of the powdered suprarenal. In ten minutes his hands were warm and the pulse was felt quite strong at the wrist.

CONCLUSIONS.

1. The aqueous extract of the suprarenal capsule when used locally is the most powerful astringent and hemostatic known.

2. By reason of its action on the heart, congestion of the mucous membrane and other tissues of the eye are relieved to a less degree by the internal administration.

3. Congestion of other organs in addition to the eye are relieved by the local and internal use of the extract.

4. The extract is useful in all forms of inflammation and in inflammations in all parts of the body.

5. The suprarenal is the strongest known stimulant of the heart.

Finally, we may say that the reason why so little disturbance has followed the use of this powerful substance for six years by so many observers is that we are using a material which is necessary to the normal functions of the body, and I wish to repeat that within the limits of its sphere of activity no other substance can take its place.

50 East 64th Street.

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SOME DIRECTIONS AS TO THE CARE OF THE HAIR.[1]

BY GEORGE THOMAS JACKSON, M.D.,
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INSTRUCTOR IN DERMATOLOGY IN THE MEDICAL DEPARTMENT OF COLUMBIA UNIVERSITY, ETC.

THERE are certain matters in regard to the care of the hair that have not been taught to some physicians in their student days, and about which they are still somewhat at sea because they have found no mention of them in their books. About these they seek advice. Perhaps such matters may seem trivial to some of you, but they do not seem trivial to some of your patients. Therefore, they seem to me to be of sufficient importance to warrant my bringing them briefly to your notice.

Management of the Hair During and After Fevers.—It is well known that the hair falls after fevers and parturition, as well as after other exhausting drains on the general nutrition of the body. The laity know this, and in such cases are constantly asking if we cannot do something to prevent the fall of the hair. After the patient is convalescent, his or her, especially *her*, friends are eager to have the head shaved and cross-shaved, and cite cases of those who have had this

[1] Read before the Medical Society of the State of New York, Albany, January 30, 1900.

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done and now have such magnificent hair! How shall we answer these questions? We can answer the first by saying that nothing can be done during the illness to prevent the fall of the hair. The hair falls not because of the dryness of the scalp in consequence of the fever, but because its nutrition has been interfered with by the illness. This we know because the hair will fall in some non-febrile disease. All we can do is to keep the hair and scalp in order by gentle brushing and combing, and by rubbing into the scalp once or twice a week the least little bit of vaseline or oil. To the demand for permission to cut the hair short or to shave the scalp, we should give emphatic denial. It is a serious business to shave the scalp of a woman and chiefly benefits the barber, who, by the way, is the one most urgent to have it done. It dooms the woman to months of wearing a wig, and to many subsequent months of remarks from the thoughtless and cruel because she, perforce, is a member of the short-haired sisterhood. As it is impossible to say how much of the hair will fall, and as it is rare for enough to fall to render "doing up" impracticable, there seems to be no reason to subject the woman to the positive annoyances of the shaving with advantages so exceedingly doubtful.

Well, shall we do nothing but simply fold our hands and let Dame Nature look after the hair? It would be much wiser to do this than to do some things that are done; but we can do more. We should allay the fears of the patient and her friends by assuring them that although the hair may fall for a few weeks, it will grow in as well as before the fever if they will obey directions. They must be directed to brush and comb the hair every day. At this they will throw up their hands in horror and exclaim: "Why, doctor, I am afraid to brush my hair as so much comes out." We can tell them that that need not disturb them in the least, as only the already damaged hair can be pulled out in that way and that the sooner they are out the better. Once or twice a week a little of a pomade composed of a dram of precipitated sulphur in an ounce of a good, soft cold-cream should be gently worked into the scalp. Every two or three weeks the hair and scalp should be washed, and a little of the pomade applied as soon as the hair is dried. As the patient regains her strength, if she follows this method of caring for the hair, she will be rewarded by having as fine a growth of hair as she had before, if not finer. Of course, the older a woman is the less the probability for this much-to-be-desired outcome.

How Often Shall the Scalp Be Washed?—This is another question often asked. We can answer that once in two to four weeks is sufficient, so far as the hair is concerned. In fact, it does not seem to make much difference to the hair whether it is washed or not. It is more cleanly to wash the hair and that is the greatest reason in favor of doing it. It is bad to wash the hair too often, and daily sousing of the hair, as is the too common practice, is pernicious.

Soaps.— We will be asked what soap is best to use in washing the scalp, and many women who make their living by caring for the hair have some mysterious soap which they use, vaunt, and try to sell to their customers, but the composition of which they will not reveal. As a matter of fact, except in a very few conditions of the scalp, it makes little difference what sort of soap is used, provided it is made by a good manufacturer. The most convenient soap is one that is liquid, such as the tincture of green soap. Whatever soap is used must be thoroughly washed out with plenty of water. After washing the scalp a little pomade or oil must be rubbed into the scalp to take the place of the natural oil that has been removed by washing.

Use of Pomades.—The men of my father's generation habitually used pomades on the scalp. To protect the chair coverings from the grease on their heads tidies came into vogue. Then the pendulum swung the other way, and now pomades of all kinds are tabooed. That there has been a great increase in baldness among the young men of the present generation is a general impression, although I know of no statistics to support or refute it. Some fifteen years ago, when I first became interested in the study of diseases of the hair, I accepted the teaching of the time that pomades did no good, and, becoming rancid, did positive harm. With enlarging experience I am becoming more and more convinced that I was wrong and that one reason why the hair is lost so early now-a-days is because the sons have forgotten the teachings and practice of their fathers in regard to the use of pomades. They neither use pomades nor seek to stimulate the natural oily supply to the hair by systematic brushing. Instead they daily wet their heads with water to enable them to arrange their hair. By not using pomades and by wetting the hair instead of brushing it, their hair becomes more and more dry, dandruff increases, and their hair falls. I believe that if boys were trained to brush their hair thoroughly every night and morning, and had a little pomade that will not turn rancid, such as contains sulphur or salicylic acid, for instance, rubbed into their scalps once a week or so, and avoided wetting their heads, baldness in the rising generation would not be so prevalent as it is in this.

Cutting the Hair.—We are sometimes asked how often the hair should be cut. It makes no difference how often it is cut. It is purely a matter of taste. No one would think of asking how often the nails should be cut, but cuts them as often as they become too long for comfort or taste. Cutting the hair will neither increase nor decrease the amount. It will stimulate the fine hairs to become coarser, but when they have reached their normal growth cutting will have little influence on them. It is always advisable to direct that the split ends of the long hair of women should be cut off above the cleft, as this will prevent the cleft from traveling up the hair. It is best not to have the hair of a girl cut after she

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is ten or twelve years old, because if left to itself and given adequate care it will grow more silky than if it is cut.

Singeing.—Of all the foolish fashions in regard to the care of the hair that of singeing is the most ludicrous. It is founded on an antiquated idea, and is a revival of an antiquated fashion. Away back in the dark ages it was thought that when the hair was cut it bled from the cut ends, or, at least, lost some fluid nutritive substance. Therefore, it was argued, we should singe the ends to prevent this loss, just as it once was the practice to sear wounds to stop hemorrhage. As the hairs are not hollow tubes like arterioles and neither bleed, exude, nor ooze in any way when cut, the operation has no foundation in fact, nor does it do any good. I have seen scores of barbers' customers who have gone about like singed cats for months and without benefit.

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NEUROLOGICAL OBSERVATIONS IN THE HAWAIIAN ISLANDS.[1]

BY DANIEL R. BROWER, M.D.,
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IT WAS my privilege during this summer to spend six weeks in these islands, and I present herewith a synopsis of the observations made. The Hawaiian Islands are remarkable for the uniformity of their climate. At sea level the average summer temperature is about 85° F., and the winter temperature about 80° F., and the difference between night and day is not more than ten or fifteen degrees. They have a great variety of climates so far as high and low levels are concerned, and dryness and moisture. The islands are very small in size, comparatively, and have elevations upon them that range from 4000 to 14,000 feet. Trade winds are almost constantly blowing in the same direction, that is, from the northeast, and these high elevations precipitate the moisture of one side, making the rainfall on the windward side very considerable, and on the leeward side almost nothing. Then, by ascending the mountain-sides one may secure a much lower temperature, on Mount Loa, even to the freezing point. We spent a week on the leper island, at an elevation of 1500 feet, and found the nights cool enough for blankets, so that it is possible to secure on the islands almost any desired climatic condition. The general effect of the climate on the average Anglo-Saxon at sea level is one of depression, and as a consequence neurasthenia is not uncommon, especially among the women, and they feel it necessary periodically to leave the islands and return to the Coast for the purpose of recuperation. Several women informed me that three years was the longest time they could remain on the islands at sea level without suffering profound symptoms of neurasthenia, and as the most desirable places on the islands are at sea level, it will not be a good place to send our neurasthenic patients. The remarkable uniformity of temperature makes it a desirable place for the spinal scleroses generally. These diseases do not prevail there to anything like the extent that they do in this country. The climate is also desirable for cases of interstitial nephritis. I had an opportunity of observing the relations of the islands to insanity, and obtained from Dr. Humphries, who was in charge of the Hospital for the Insane, at Honolulu, much information. This hospital is a very creditable one. The buildings are well constructed and commodious, and the climate makes it possible to use an out-of-door treatment quite universally. During my visit every patient was out-of-doors. The grounds are abundantly shaded with fine specimens of the umbrella tree and the cottages are provided with large verandas. The types of insanity among the natives are generally mild. It is not usual to have the violent manifestations of mania. The violent cases that were at the hospital at the time of my visit were either foreigners, or else they were mixed in their nationality. The proportion of insane to the population as near as could be ascertained is about one to a thousand. Notwithstanding the great prevalence of syphilis among the natives, Dr. Humphries informed me that they have never had a case of general paresis in the institution from among the native population. I saw one paretic there, but he was an Anglo-Saxon. Paranoia is a form of insanity that has not been observed among the natives. There was one such case in the hospital at the time of my visit, but he was an Englishman. Suicides are practically unknown among the natives. There have been suicidal cases in the hospital, but they are usually Chinese or Japanese.

We had a very good opportunity of making observations on the subject of leprosy, and inasmuch as we now possess these islands, Cuba, Puerto Rico, and the Philippines, the question of leprosy is one of great importance to the profession. I have no doubt our armies returning from our new possessions will bring this disease with them. Leprosy was introduced in the islands in the year 1848 from China, and the authorities have been endeavoring by the most vigorous segregation of the lepers to stamp it out; they are making some headway in the work, but it is scarcely commensurate with the energy of their methods. There have been more than 6000 lepers consigned to the Island of Moloki since the work of segregation began, thirty-five years ago. There are now 1200 lepers in this settlement. It is an ideal place. They occupy a tongue of land at one end of the island, and separated from the balance by a precipice that is from three to five thousand feet high. We can from personal experience testify to the extreme difficulty of getting down this precipice to the colony and returning to the other part of the island. The lepers are taken care of here and provided with anything necessary for their comfort by the general public. There are some interesting things to be noted about the children. They have in Honolulu, near the receiving station for lepers, a home conducted by

[1] Read before the Chicago Neurological Society.

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the Sisters for girls; they have in this home some thirty or forty girls who were born in the settlement of leprous parents, and when they were found to be clean at birth or non-leprous, they were taken from the settlement and brought to this home, and in the experience of the Sisters, who have been running this home for fifteen or more years, there has not been a case of leprosy developed there. The Board of Health feel that they are getting the disease under control, but it is not a very rapid process. In conversation with the members of this Board, we ascertained that the proportion of the anesthetic or nervous form of leprosy on the islands does not exceed 25 per cent. The tubercular forms constitute fully 50 per cent. of the cases, and the balance are of the mixed type. Suspected cases of leprosy are sent to a receiving station near Honolulu, and there once a month the physicians of the Board of Health meet for their diagnosis. It was my privilege to be present at one of these investigations, which began at noon and ended at six o'clock, during which time some forty lepers, the accumulation of the preceding month, were examined. Out of this number there were only four neurotic cases, one of which was put on the suspect list, and was not sent to the settlement, but was required to report to the health officer at stated intervals until the case was fully disposed of. Several of the cases were disposed of in a similar way, and some of them were postponed until the next Board meeting, a unanimous decision of the Board being necessary to send a case to the leper settlement. The physicians of this Board, who are experts, indeed, on this important subject, have abandoned the hereditary etiology, regarded it as contagious, and account for its rapid spread among the natives by their lowered resistance, a consequence of the great prevalence of syphilis and their socialistic tendencies. They live principally on two articles of diet, one called poi, and the other is fish. This poi is eaten by the natives out of a common vessel, and with their fingers; the ordinary native dips his first and second fingers into the poi-dish and carries the poi to his mouth, and then takes a bite of his fish, and has no fear of leprosy. They make a persistent effort to secrete the suspected cases from the health officers, so that many of the cases that were at this examination were cases of long standing; that is, from two to three years' duration, and these cases had doubtless widely scattered the bacillus before they had been brought before this examining board. The failure of efforts at early segregation is probably one reason why the work of stamping out the disease has not been more successful. It does not prevail to any great extent among Anglo-Saxons. During our visit to the settlement we found only six Anglo-Saxons there. The opinion prevails that the contagion occurs largely through the oral and nasal secretions. Active catarrhal symptoms were present in the great majority of the cases, and the propagation of the disease from the oral secretions is facilitated by their habits of eating and of smoking each other's pipes. We had an opportunity of examining numerous cases of the anesthetic form. We were told that these cases usually begin with an erythematous eruption and with hyperesthesia, which later gives place to the anesthesia and later still to the motor symptoms. The ulnar and peroneal nerves are the usual seat of the attack. The invasion of the ulnar nerve by the neuritis develops the characteristic claw-hand of the leper. The diagnosis is made on the condition of the member and of the nerve; the diffused enlargement of the nerve, amounting in some cases to three times its normal size, an enlargement that is not uniform or symmetrical but nodular. The probability is that the bacillus begins its work in the sensory end organs in the skin; that it travels up the sensory nerves until it reaches a place where the nerves become mixed, sensory and motor, and when this progressive interstitial neuritis involves the motor and sensory filaments of the nerves, the muscular atrophy and the contractions become manifest. The difficulty in diagnosis is the differentiation of the leprosy from a neuritis that may have its origin in other causes. In the case of a young girl who was examined at this session of the Board and put upon the suspect list, there were very few erythematous patches, none of the white patches, slight enlargement of the nerve, but muscular atrophy and contractures. She will be kept under observation, reexamined in the course of a few months, and, of course, if found leprous, will be sent to the settlement.

We saw several cases of amputation of the toes and fingers from the progression of the atrophic processes, and these cases are difficult of differentiation from Reynaud's disease. Some of the cases presented a symptom complex that made them difficult to differentiate from syringomyelia. In doubtful cases the microscope is of great service in diagnosis, but it requires an expert to differentiate the bacillus of leprosy from the bacillus of tuberculosis.

The subject of incubation is important. In the case of a convict who was inoculated, the disease began to develop in about five years thereafter. In another case the period of inoculation fixed with some degree of accuracy was followed by positive manifestations of the disease in about the same number of years. The tuberculous cases run their course with rapidity. The anesthetic cases are long-lived. There are at the settlement several cases of about twenty years' duration.

As to treatment, nothing whatever has been found that can reasonably be called curative. Hot baths afford a great amount of relief and diminish, in some cases at least, the rate of progression. These baths have been medicated in a great variety of ways, but it is the impression of Dr. Oliver, who has been for many years the resident physician of the settlement, that it is the heat and not the medicament that produces the results.

Dr. Oliver's general plan of treatment is mildly alterative, tonic, and when necessary anodyne. He has seen excellent results from the very free

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use of strychnine. Climate exercises a considerable controlling influence over the progression of the disease. Some of the lepers who have been taken to the settlement and given residence in the mountains of Japan have done so remarkably well that they have seemed almost to recover.

The great problem in connection with this disease is the prophylaxis. The efforts at segregation on the island have not been followed by as good results as its advocates had hoped for in the beginning, largely due, I think, to the fact that it is impossible in the very nature of things to enforce it early and thoroughly. There is no doubt that many of the cases of leprosy begin as nasal catarrh, and the man goes around spreading the disease broadcast for years before such positive evidence of the disease presents itself as to justify his segregation, and how to control this is a great problem. I think the health officers are doing everything in their power to make it a success, and the failure is due to the long period of incubation and the insidious onset of the disease.

In connection with the differentiation of progressive muscular atrophy, Reynaud's disease, Morvan's disease and syringomyelia, I think the recent observations of Zambico are very interesting. This physician considers that these several forms of nervous disease are simply modified forms of leprosy, the remnants of the leprosy that disappeared from Europe during the fifteenth and sixteenth centuries.

ALCOHOL AS A GENERAL STIMULANT AND HEART TONIC; ITS USE TO THE ANIMAL ECONOMY IN HEALTH AND DISEASE.[1]

BY T. J. HILLIS, M.D.,
OF NEW YORK.

THE author of this paper will not follow in the footsteps of others who have preceded him, writing on the subject he has chosen to present to you to-day, that is, to give a long and labored description of the chemistry of alcohol and go into a wearisome and detailed account of its physical properties, as they are fixed and no doubt well known to all. In omitting this usual introduction a load is lifted off your shoulders, as it was not from mine when I had to sit time after time and with excruciating agony listen for what appeared an age to that which had better be read from a text-book, as most of it was only a clumsy copy.

The writer will not burden your minds with an array of citations from the various writers on the subject of which he addresses you to-day; he believes that little is gained by such quotations other than to weaken the force of his own argument and further complicate and muddle certain features of the question to be determined. The opinions and conclusions of any writer I might here refer to are known to all of you, then from me it would be only coming second-hand, and the time allotted me now is so brief that I cannot afford to deal in second-hand material, as Dr. Bristow once said, "Let the searcher after facts compare the notes of original writers and draw his own conclusions, then, while making his comparisons he will not be buried in a heap of references and enveloped in a fog of uncertainties, which, after all, lean on the investigations of a single man, but padded and quilted to suit the purpose of others who are trading on the brains of the original thinker."

For this reason nine-tenths of the medical literature of to-day is conspicuous by its dearth of ideas and absolutely worthless on this account, the men who write the books being, some of them, plagiarists and most of them copyists and compilers. In consequence of this state of affairs the market is glutted with so-called medical books, magazines and pamphlets that make our tables groan with a weight of stuff that should have reached the waste basket long before it was set up in type.

B writes a book, better he didn't. The central figure and the axis on which it rotates is the investigator A. Take away A, and B sinks into obscurity. There are, however, a few things about alcohol of which notice can with propriety be taken here, as they throw light on part of its physiological action, and are consequently of importance when we come to speak of alcohol in its relation to the human body in health and disease.

Alcohol is a generic term and is used to denote a number of substances resulting from the displacement of an atom of hydrogen from the saturated hydrocarbon compound CH_4 by an atomic equivalent of another elementary substance. Those alcohols are known as the marsh-gas series and are always found to be some multiple of the carbon radical CH_2 with the saturated hydrocarbon compound CH_4.

The oldest of these compounds, and the one best known, is the hydrated oxide of ethyl, which is alcohol. These alcohol substances differ widely in physical properties; some are gases, some fluids and others solids at ordinary temperature. Carbolic acid is an alcohol, so is glycerin, so are fats (cetyl alcohol).

The word alcohol is objectionable to the writer because he thinks it is misleading, as it might be supposed to be the beverage that we, or some of us, occasionally drink for health or companionship, but since it is in use by others to designate a particular product and to mean a definite thing, he, to avoid misunderstanding, will also adopt it. It is as consistent to say that the spring of your watch is pig iron as that the beverage that so few of you gentlemen drink is alcohol.

There is more alcohol in a cheap whiskey than in a dear one; just as there is more pig iron in a poor watch-spring than in a good one. Alcohol can be extracted from old hats or old shoes (but it would hardly pay). Anything possessing a saccharine or starchy substance will yield up some form of alcohol in presence of a ferment and un-

[1] Read at the 16th Annual Meeting of The New York State Medical Association, held October 24, 1899.

der favorable conditions. Now, it is as fair to say that we are eating old shoes as that we are drinking alcohol when some kind friend invites us to his social board to sip with him his Prince Maternish or his rare old St. Julian. The old shoes passed through a transformation to become alcohol, so did the alcohol suffer a change to reach the perfection of St. Julian.

The hydrocarbon in the old shoes was converted into alcohol by a process of oxidation; the process continued in the alcohol was a higher oxidation, which resulted in ethereal compounds, which now replace it in the product. Alcohol is said to be absolute when deprived of the water with which it is mixed; it loves this water so much that it is necessary to place decoys in its immediate vicinity to coax it away. (These decoys are called higher affinities.) It is then said to be absolute and anhydrous. The lighter the alcohol is, the more pure, and the higher it is prized in the arts and manufactures, but the more dangerous as a drink and the more useless as a popular beverage. For this reason it is not used at all, but put away with the water with which it is mixed by distillation for some time, the longer the better.

Several alcohols are found together in a single fermentation, and during the process of a distillation the one which evaporates or vaporizes first is the alcohol we recognize and adopt; it is known as ethyl alcohol. Now, another alcohol is heavy and does not evaporate so easily because it contains four times more carbon than the other; this is known as amyl alcohol. In order to have good whiskey it is absolutely necessary that this latter alcohol be mixed in a certain small proportion with the other, as it is so rich in carbon. When this carbon is burned out by slow combustion (and no sooner) the whiskey is fit for use; it takes from ten to twenty years to do this, and even after that the oxidizing process is still going on and new elements evolved by the metamorphosis of old ones, namely, ethereal compounds and gases so valuable a trait in wines and whiskies. They are now called old vintages. New whiskey is not fit for use because it contains raw hydrocarbons in the shape of oils and gases. One of these oils is amyl alcohol, and it is known as fusil oil. It is a powerful intoxicant and very poisonous, but the principal ingredient of the cheap whiskies to be found in grog-shops and dives. At present the manufacturers and distillers are trying very hard to neutralize the effect of the amyl alcohol in their new whiskies by various devices, such as adding glycerin, which, as we have said, is itself an alcohol, but away up in the series, to give smoothness and body, and olefiant gas, which is also an alcohol, to give flavor; but at best these are clumsy devices, and their efforts have met with poor success, as it is almost impossible to counterfeit synthetically an organic compound.

Leave the fusel oil in new whiskey and it is a poison; take it out and the whiskey loses its fire—its spirit, as it were. As the ethereal oils and gases formed by the substitution of alcohol radicals for hydrogen in the acetic and other oxid compounds of the hydrocarbon group are the life of old wines, so the fusel oil and other organic ingredients are the soul of new whiskey. The only way to remedy the evil is, don't sell new whiskey, as it is not fit for consumption, because it is not ripe, and to drink it is like eating green apples.

The good quality of whiskies and wines is developed by the presence of fusel oil and other impurities always to be found in fermented liquors made from cereal and vinous products. It is the oxidation of these substances which calls the alcohols into existence and favors the new combinations which are continually occurring during the slow fermenting process called ripening. As the alcohols themselves resulted from the presence of a ferment with saccharine substances in solution under the influence of heat, so the aldehydes and haloid ethers cannot be evolved save by the destruction of fusel oil.

The presence of amyl alcohol, then, is always essential for good whiskies, but in order to make fine whiskies the conditions must be favorable, and these conditions are rest and exclusion from light, until all the carbon compounds are burned out and transformed into new substances by their own decomposition. If bob veal, which is the meat of a young calf, is exposed for sale, such exposure constitutes a crime and the offender is punished for breaking the law. Why is it accounted a crime? Because very young veal is not fit for human food. The very same rule should apply to the exposure for sale of very young whiskey. Like the veal, it will be fit for consumption by and by, when it grows older—age is the factor in both cases. It may here be stated without the likelihood of contradiction that if whiskies were properly ripened before being exposed for sale in distilleries and saloons, two-thirds of the crimes and four-fifths of the insanity charged to the account of alcohol would disappear from the indictment, so bulky and terrible, that stands against it on the statute books of society. It is the quality of the alcoholic product, not its quantity, that should be considered, and, if the quality is right, the quantity will regulate itself. [The author here kindly and respectfully directs the attention of this august assemblage, which he has the honor of addressing to-day, to this fact, and requests that it gives it the thought a subject of such importance deserves, being, as it is, a matter affecting a large part of the community, and from whom we derive most of our livelihood.]

Alcohol as a General Stimulant and Heart Tonic.—The question whether alcohol is a food has for a long time been discussed *pro* and *con* by writers on materia medica and therapeutics and by the expositors of social economics, but until recently no definite answer has been given, as most of the writers started out to prove that their side of the question was of necessity the only correct one. This was conspicuously the

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case with so-called temperance doctors and prohibitionists; for this reason their investigations had no scientific value, and consequently were worthless. They denied with vigor that alcohol had any food qualities, later they further denied that it had any stimulating properties other than that which it excited as an irritant. It is hardly necessary to say that this latter assertion is not worth refuting, for, in order to have produced the pathological phenomena so well described by themselves and admitted by all writers, it must first have excited and aroused into activity the stomach and circulation. This an irritant cannot do. Alcohol may after its local effect continue its action as a depressant and narcotic.

Standard medical writers, however, have always taken the position that alcohol stands first in the select class of substances that may be rightly admitted to be general stimulants and heart tonics. They also go a step further and assert that it serves as a food in certain states of the body in health and nearly always when the body suffers from disease, and for that reason is a useful adjunct to the repertoire of the physician in his daily professional rounds.

The human body is largely sustained by organic compounds, chief among which are the hydrocarbons. These hydrocarbons are known to yield up alcohol under conditions that can be presented in the chemical laboratory of the body. There is little doubt but that all hydrocarbons ultimately offer their nutrition to the tissues, and distribute their heat to the body in the form of some alcohol, with the formula of which we are not acquainted, and never may be. Some experiments recently made with the object of determining definitely whether alcohol is a food have been conducted along lines mapped out by the ablest writers on therapeutics, and drawn from careful observation under a variety of conditions, clinical and empirical. These writers felt sure of certain facts, *viz.*, that alcohol under definite conditions acted as a food, in fact, that it was a food; but scientifically they were not able to establish this conclusion, for science must always be the standard by which to measure every form of investigation and the key to unravel all phenomena whether of mind or matter.

Through the experiments conducted by Professor Atwater it has been proved that alcohol is a food and that it yields up its heat and force exactly as does a pound of bread or a bowl of soup; and that it best does this under circumstances that render it impossible for either of the others to have any value as a food supply.

Alcohol differs from all substances in one essential particular in that it presents allotropic features with varying conditions of the body, acting as a stimulant, a tonic, a food, an irritant, or a poison. When we wish to form new compounds from the elements of others there is a favorable moment, known as the nascent condition, when the elements are dissolved and at liberty to choose new affinities.

The human body, no doubt, presents such a condition to the oxidized hydrocarbon compound, alcohol, at a time of fatigue, disease or hunger, in the order in which they are written. At such time the affinities are feeble and present the favored moment for the transformation of the alcohol into heat and force. Under ordinary conditions, however, the natural stimuli of the body are food and oxygen; they are expressed in the phenomena of vital activity, the measure of which is volition and sensation. In the healthy human body, when not suffering from exhaustion or shock, food, rest and oxygen supply the most favorable conditions for its maintenance and growth.

If the average physician could look at alcohol in the abstract, view it as he would a pile of lumber or a heap of sand, a thing capable of being applied to a certain purpose or under changed conditions to a number of purposes, the objection to its use, when it could be useful, would quickly disappear. Is it logic for one to object to sand being used in the building of the house because a friend, while excavating, without taking the proper precautions, was overwhelmed; or to be opposed to the use of wood in interior decorations because a careless man was killed by a falling timber? Such a course of procedure would not be rational ground for objection.

Electricity has torn the earth asunder, rent the air and made the heavens awful with its lurid flame; it has ravaged the face of nature and created havoc and desolation in every land and clime on the habitable globe, destroying many thousands of lives every year, yet on that account nobody objects to it as a fuel nor as a light to illuminate his dwelling. While we recognize the danger of electricity, we are prepared to utilize its useful and economic side and adopt it as a valuable household auxiliary. To condemn and repudiate it because it kills its thousands every year is like denouncing alcohol because it destroys those that abuse it. Electricity in the kitchen, in the parlor, the counting-room and the physician's office produces comfort and lightens life's burden. Alcohol in the banquet-hall, in the beer-garden and at the domestic hearth makes thousands merry for every ten it renders miserable and for every one it destroys. The man is justified, who, feeling insecure, puts up a lightning-rod to protect his house, and the man who cannot handle alcohol in a rational manner is equally justified in taking a pledge and attaching himself to a temperance society; but he has no right to denounce alcohol because of his own weakness any more than he should a lamp-post which he was unfortunate enough to run foul of when under the influence of his potation. The lamp-post, serving a useful purpose, had a right to be where it was. The alcohol, too, was prepared to serve a useful purpose, but the man who imbibed it freely robbed it of the opportunity to put its purpose into practice.

To recognize the properties of alcohol in the abstract, and to know that it has other purposes than to make men intoxicated and disorderly,

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is the duty of every physician. He must see alcohol from its useful, and health-giving point of view, and not from that of the clergyman or the temperance orator, the former of whom may know nothing of alcohol—the latter, too much. These men, undoubtedly, are honest in motive, and are justified in their harangues and philippics against alcohol, because they are looking on its moral side and entirely incapable of seeing any other, although there are several and all in plain sight of those who are not carried away by the excitement and prejudice aroused by the men who are looking on but a single side.

It is difficult to contemplate without pity the position of these poor men—the clergyman and temperance lecturer, with the few friends they have gathered round them—conscripts from the medical profession and others assembled in the moral blockhouse, unconscious that no war exists, but who are fighting for principles that have been conceded and deaf to the bugle blast of common sense which demands reconciliation and reunion as a common benefit to all.

The Physiology of Alcohol.—An important side of alcohol, and one that should have interest for every physician, is the physiological one. As a physician, this side should interest him most, as it has especial value in the time in life when the fire on the human hearth is burning low and the powers of life almost exhausted. Another, the pathological side, will be touched on when we come to speak of alcohol in disease.

When the human body is free from pain and every organ in the vital mechanism performing its function after its order, the body may then be said to be in perfect health and its measure of vitality might be rated at a hundred. There are many fluctuations in this human barometer and it may sometimes fall very low in case of great and prolonged muscular and mental exertion, actually down to fifteen, or even ten, the body being in perfect health; if it were otherwise, as is the case of disease, no such low-water mark could be reached, as death would speedily ensue. The body in this enervated state is suffering from the effects of extreme exhaustion and must not be confounded with the collapse occurring at the critical stage of a disease.

The body suffering from extreme exhaustion is in the position of a bank which has paid out the last dollar of its working capital to stop a run and avert a panic. It has securities in the shape of potential energy locked in the muscles but they cannot be got at to be turned to immediate account. Rest and sleep would solve the problem and liquidate the human bank, but this is now out of the question, for aid must be immediate. What can give this aid? Can anything liberate and transform the force tied up in this exhausted man's muscles into a working capital of dynamic energy, so that the body may perform its function and he finish his task or journey at once? Anything that will do this will be acceptable to him. and the thing which will do it quickest will be most acceptable. What is that thing? Most undoubtedly alcohol. In this dire emergency, alcohol turns its physiological side (like a mother her breast to her hungry child) which here has two offices, the one to develop energy in exhausted tissues, by the heat it yields up through its own oxidation; the other, by its stimulation, to equalize the blood current which is irregular and deficient at the periphery of the circulation.

The man who walked yesterday twenty miles in five hours, and, who, while not yet at the end of his journey, grew weary and exhausted and unable to proceed further; that this journey should be completed in a given time means all to him; four miles have yet to be covered and he is exhausted. What can he do to enable him to complete his journey? He is a temperance orator, besides being a lecturer on therapeutics in the college of a New England town, but, for the time being, has adopted the vocation of a pedestrian; he knows all about the use of alcohol, as he does the virtue of drugs, but none of his drugs have helped him now; beef-tea and coffee in turn he has tried; they have failed, although so potent in the early hours of his journey, for now they have irritated and upset his stomach, making it as weak as his legs on which he can hardly stand and utterly unable to digest any substance, fluid or solid. This is a moment of anxiety for that therapeutic pedestrian, as the completion of his journey in a given time means a world to him. His stomach is wholly useless and unfit to perform any function (in fact it pains him), being as unable to digest as an elephant is to fly. Its muscular coat is paralyzed and its mucous layer irritated and lying collapsed on the viscera like a torn balloon on the turf. He does not believe in whiskey and says so in his lectures to the students at the college, declaring it to be an irritant under all circumstances, a depressant and a poison. but, at the urgent solicitation of his trainer, who is a professor of physical culture at the same college in which he has the honor to fill the chair of therapeutics, he is persuaded to take four ounces of old whiskey, which the trainer has handy in a flask. After thus imbibing, he finishes the remaining four miles of his journey with an ease and grace that appear to be born of magic.

A man, loitering in a saloon the other day, drank four ounces of whiskey, after which he became so intoxicated that it became necessary to remove him to a hospital, where he died the same evening. Another man, a physician, after successfully terminating a difficult labor case, drank eight ounces of brandy, after previously administering ten ounces to his patient, who was exhausted from postpartum hemorrhage; its timely administration saved the woman's life; the only effect it had on him was to readjust his disturbed circulation, equalize the nervous current in life's dynamo that was rapidly burning out the switchboard of his vitality, and restore the mental coordination lost by his great exertion. He was not intoxicated, neither was his patient, by their large potations, although twelve hours afterward, when recuperated from their fatigue, the same

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quantities would be followed by unconsciousness and probably death, when a beautiful illustration of the pathology of acute alcoholism could be exhibited on their cadavers. The only effect on the brain was a slight stimulation of the cells, producing a pleasant exhilaration. The alcohol in both cases was immediately burned up like a handful of shavings in a blast furnace, to fill a physiological demand by yielding up its heat to warm the body and by destructive metamorphosis liberating energy by its vitalizing power from enfeebled and paralyzed muscles. It thus enabled the heart to perform its function and the man to continue his existence.

(*To be continued.*)

CLINICAL MEMORANDA.

THE THRUSH-FUNGUS AS A CAUSE OF GASTRITIS.

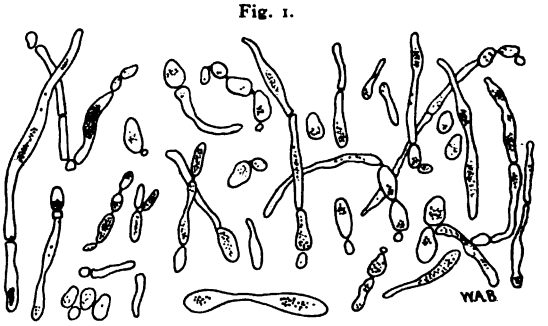
By W. A. BASTEDO, Ph. G., M.D.,
OF NEW YORK.

It is well known that the thrush-fungus (saccharomyces albicans, Van Tieghem; oidium albicans, Robin) is responsible for many cases of sore mouth, and has been reported as causing various inflammations in other portions of the alimentary tract. From Europe we hear of a few cases of acute gastritis due to this fungus, yet in this country a "thrush" gastritis is so rare as to be a medical curiosity. One of these cases was admitted to the service of Dr. A. A. Davis, at St. Luke's Hospital, New York, last summer and gave the following clinical history:

Miss F., aged twenty-six years; she has always lived in New York; occupation, light housework. She gives no previous history of any sore mouth, or stomach or intestinal trouble; has been very healthy up to her present illness, has never used alcoholic drinks, but for several years has consumed large quantities of coffee. On August 5, 1899, the patient was apparently in her usual health in the morning, but in the afternoon had a severe chill, which was followed by persistent vomiting. She had a severe frontal headache, which continued for two days. Abdominal pain was absent until one and a half days after the onset of the vomiting, when she felt a sudden sharp pain just below the ensiform cartilage. This pain and the vomiting continued severe until the time of admission to the hospital, ten days later. Since vomiting began she has been unable to retain anything in her stomach, even a small amount of water being rejected within five or ten minutes after swallowing. At no time did she vomit blood of coffee-ground material. The lips and tongue have been dry and sore, her bowels constipated, and her urine scanty and dark-colored. She has the sensation of a "distinct lump" below the ensiform cartilage. Occasionally she belches gas, but without any relief from the pain.

A physical examination eleven days after the onset of the symptoms shows a small anemic, emaciated patient. Her tongue is red, dry and cracked. The lips are dry and with slight herpes in the left angle of the mouth; pupils are normal; lungs and heart negative; radial pulse regular, rapid, with some tension; artery moderately thickened. The liver is felt just below the free border of the ribs; the edge is soft, but not tender. The spleen is not enlarged. The lower border of the stomach percusses on a level with the umbilicus; there is marked tenderness and resistance in the central epigastric region, but no mass can be detected. Genito-urinary organs negative. Temperature, 99.4° F.; pulse 128, respiration 28. The patient was much prostrated and vomited twice while being examined. The vomitus consisted of clear fluid containing a little mucus and many grayish particles which floated on the surface and looked much like an ordinary mould. A chemical examination of the fluid showed no free hydrochloric acid, no bile, no maltose, traces of organic acids. Under the microscope the grayish masses were seen to consist of a few bacteria and epithelial cells, probably a few yeast cells, and a large amount of the saccharomyces albicans or "thrush-fungus." At this time the patient's leucocytes were 12,600 per cmm.; her urine dark-colored, of specific gravity 1022, and containing a slight trace of albumin and very few hyaline and granular casts.

Fig. 1.



The Thrush-fungus (saccharomyces albicans, Van Tieghem).

She was given a nutrient enema consisting of the yolk of one egg, peptonized milk ℥vi, beef peptonoids 3ii, whiskey ℥i, with a pinch of salt. This was at once expelled. Lavage was resorted to and a large amount of the fungus removed. Milk with cerium oxalate and sodium bicarbonate was given through the tube, and was vomited in curd a few minutes later. Then a dose of codeine, one-eighth of a grain, and chloroform water, one dram, was given and followed in five minutes by milk and lime-water, one ounce of each. This was retained and the procedure was repeated every two hours with success. The next morning, as she was somewhat better, an Ewald-Boas test-breakfast, consisting of a roll and 360 c.c. of weak tea was given, and it was retained, although there was some nausea. It was evacuated one hour later. A few cubic centimeters of thick fluid was obtained, containing much undigested roll, some mucus, and much of the fungus. There

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was no free HCl, but a small amount of combined HCl, traces of lactic acid and of the acids of fermentation; total acidity 20. There was no bile, starch-digestion was moderate; the rennet-ferment was abundant. The mixture of codeine and chloroform was omitted on the second day and two ounces of milk with sodium bicarbonate given every hour. This was retained. On the fourth day, the morning lavage showed no fungus, and the patient began to have an appetite. Broths and a scraped-beef sandwich were taken with relish and with no discomfort. Five days later the patient was walking about and eating regular meals.

The size of the liver remained the same throughout. On the day after admission menstruation began and was normal in amount and duration. A careful examination and cultures taken failed to reveal any infection of the mouth and throat. As there was a large quantity of the fungus in the stomach, and as no other etiological factor could be ascertained, thrush would seem to be the probable cause in this case.

In the literature there is no satisfactory statement as to whether the fungus grows free in the stomach, or is attached to the walls, or penetrates the stomach-cells. It is also not known whether the fungus develops very rapidly, producing gastritis in a very short time, or whether its growth is slow, and it gradually accumulates until the stomach is no longer able to tolerate it. If the latter is the case we would expect some prodromal symptoms before the acute onset. The specimens obtained by us indicate that the fungus was undergoing rapid growth. Morphologically the globular and globulo-filamentous forms predominated and these are the forms obtained in the laboratory by rapid growth in favorable media. The filamentous forms tend to develop in media of complex chemical nature; or, where the growth of the fungus is retarded, as in the presence of antiseptics.

A CASE OF TRANSVERSE PRESENTATION; DOUBLE UTERUS.

BY A. H. HAYDEN, M.D.,
OF SUMMERVILLE, S. C.

As I deem the case I am about to report one of interest to practitioners generally and worthy of report for statistical purposes, I submit the following history: On January 1, 1900, at 9 P.M., I was called three miles in the country to Mrs. D., white, aged forty years; multipara; ninth pregnancy. She had been in labor thirty-six hours. On examination I found the left arm of fetus protruding from the vulva, dorsoposterior position, with head to the left side and the shoulder completely wedged. All movements of the fetus had ceased, and labor pains were infrequent and very feeble. The woman had been in the hands of a so-called midwife, who informed me that the condition which I found existing on my arrival had obtained since 9 A.M., the woman having had rapid and violent pains from that hour until shortly before my arrival, at 10 P.M. A glance was sufficient to show that the woman was in a state of collapse. Examination revealed no radial or temporal pulse and the second sound of the heart was not to be recognized. The abdomen was excessively tympanitic. Hypodermics of digitalis and ether and later of nitroglycerin failed, after a lapse of twenty minutes, to induce the slightest response from the heart, so without the use of anesthetics I proceeded to perform podalic version and deliver with some difficulty. One knee was reached, but not without the introduction of a portion of the hand into the uterus. By careful and continued manipulation a foot was soon brought down. This being accomplished delivery was easily effected. Fearing the occurrence of post-partem hemorrhage, a full dose of ergotole with one-fourth grain of morphine was given, after version and before delivery was completed. As it was evident that the fetus had been dead several days no effort was made toward complete delivery until uterine contractions, which were very feeble at the time of delivering the lower extremities, were of the strength and regularity approaching the normal. The third stage of labor was disappointing, inasmuch as every effort of nature, as well as those of my own, failed to expel the placenta. This was finally accomplished, but not without reluctantly, although of necessity, passing the hand within the uterine cavity. Throughout the whole process of delivery the patient's condition manifested no appreciable change. Shortly after delivery her general condition seemed improved, but at no time for three and a half days was there a return of the pulse. After this, until her death, which occurred on the morning of the tenth day, her general condition improved slightly, and her pulse, although recognizable and regular, was very weak. For three days following delivery there was great tympanites, but little or no tenderness over the abdomen, which was tolerant of considerable pressure save over a small area of about two square inches directly above the symphysis, nor was the tenderness very marked even here. Tympanites entirely disappeared by the end of the fifth day. The patient's temperature on the second day reached 100° F., but at no time before or after was it above 99° F. There was no hemorrhage at the time of delivery, or after. I was informed by attendants that there was little or none before my arrival. The placenta was already detached when efforts were made to remove it and had evidently been so some time prior to delivery. With the placenta two large clots were delivered. Lochial discharge was scant for forty-eight hours, but later was normal in character and amount. The urine had to be drawn with the catheter fourteen hours after delivery, but after that was passed by the patient at regular intervals, and, as nearly as could be learned, was normal in quantity. In appearance the urine was normal, save perhaps slightly high colored. It contained no albumin. The bowels were constipated for two days, but responded kindly to a

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dose of oil, which was followed by normal, daily evacuations. From the time of delivery to the time of death the patient complained of extreme weakness, although constantly insisting on the necessity of sitting up, and taking solid food, both of which privileges were denied her. When I saw her last, twelve hours before her death, she was apparently doing well, although still on heart tonics, stimulants, and liquid diet, and complaining of "awful weakness." She died rather unexpectedly, at 4 A.M., on the tenth day, her attendants reporting that she had been extremely drowsy from 6 P.M., and at the last had "slept soundly and never waked up," her end being quiet and painless, and her mind, during waking hours, perfectly clear to the last. For two days prior to her death she passed her urine and feces in bed, apparently involuntarily, although at the time she would converse rationally and state to her attendants what had happened. The patient belonged to the poorest of the poor class, and her surroundings were such that worse are scarcely ever seen. The proper medicines were provided for her, however, and nourishment. Her death I can only attribute to exhaustion, from which she never rallied, although she survived her labor for a fraction over nine days. After her death I was informed that at about 5 P.M. on the day of her death she had, at her earnest solicitation, been allowed to sit up in a chair for an hour or more by her attendant. She had experienced no difficulty in any of her eight previous labors. During the entire summer and up to the time of her confinement, she informed me, she had been having malarial paroxysms at regular intervals.

The double uterus in this case is of interest. After passing my hand into the vagina in my first examination, I noticed that the examining finger, following as closely as possible, the line of the arm to the point of the shoulder, lost contact with the arm. Pausing a moment to ascertain the cause, I found between it and the arm tissue which was recognizable as uterine. Thinking that I had met with a cervical laceration and that a flap on one side of the rent had insinuated itself between my finger and the arm, I tried to again make digital contact with the arm without withdrawing my finger. This I could not accomplish, and in a moment I discovered that my finger was within a circular aperture separate and distinct from the orifice through which the fetal arm was protruding. I then quickly, but thoroughly explored the opening as high up as it was possible to reach with my finger, found that it terminated in a cavity something more than a finger's length in depth, comparatively smooth internally, and without any opening to be detected, save at its vaginal extremity. My finger was freely movable in it and I could, through its inner or right lateral wall, make out distinctly the outlines of the fetal head, while its left or outer wall was, to the touch, very much thicker and more resisting. I now recognized that I was dealing with a case of double uterus, and determined if possible later on to further investigate the matter. After turning the fetus, which was in the right uterus, and while still only the lower extremities were without the os, I passed my finger again into the opening to the left. The uterus was still comparatively inert, and I was able to pass my finger quite two-thirds of its length into the cavity, at the same time keeping my left hand on the woman's abdomen awaiting the next appreciable contraction. After waiting thus for probably a minute there was quite a strong contraction and simultaneously as the impulse was conveyed to my hand on the abdomen, the tissues surrounding my index finger in the vagina contracted forcibly around it. This dispelled all doubts that might have existed concerning the nature of the second and smaller cavity. When delivery of the fetus had been accomplished, and I found it necessary to pass my hand into the uterus to extract the placenta, I took occasion to note carefully anything out of the normal in such cases which might present itself to the touch. During this manipulation I found that the two uterine openings were distinct and separate at the os externum and that at this time the finger could not be inserted in the left (unimpregnated) uterus for more than an estimated half-inch and that the margin of each external os was complete in itself save the partition common to both. The partition tissue separating them was considerably less in thickness and softer in consistency than the opposite (left) and unimpregnated side, and slightly thicker than the impregnated (right) side of the uterus. With the hand in the impregnated uterus I noted that the right partition wall of the cavity was thick and resisting and seemed to bulge somewhat into the cavity, while the balance throughout seemed to be much thinner than the normal. This examination, although very hasty, was carefully made with the aid of the left hand on the abdomen while the right was within the uterus.

MEDICAL PROGRESS.

Cold Bathing in the Treatment of Typhoid.—J. C. Wilson and J. L. Salinger (*Phila. Med. Jour.*, March 3, 1900) give complete and full statistics of 1904 cases of typhoid treated by them by the Brand method of cold bathing or by modifications of that method as gradually adopted. The mortality of the 1904 cases was 7.5 per cent. The writers make the following affirmations, based on the full statistics of these cases: (1) That the treatment by systematic cold bathing does not avert or diminish the frequency of hemorrhage. (2) That the frequency of the occurrence of perforation is diminished. (3) That it diminishes the danger of complications, especially those relating to the circulatory and respiratory tracts. (4) That it is apparently attended by a somewhat increased frequency of relapse, although general statistics in regard to relapses are entirely unsatisfactory. If relapses are more common in bathed cases it is probably due to the fact that owing to

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the reduction in mortality a large number of cases which under other forms of treatment would have died in the primary attack survive to suffer the relapse. (5) That the treatment is attended by the occurrence of albuminuria in a large percentage of cases. This albuminuria shows itself in two forms: (*a*) As a faint reaction without casts or other indications of renal disease; (*b*) cases in which albumen is present in considerable amounts with blood-corpuscles and casts. (6) That it has no influence in increasing the danger of otitis media. The writers have gradually modified the original method of Brand, as follows: (1) Purgatives are administered early in the attack. Calomel is used for this purpose in fractional or large doses and is sometimes followed by a saline. Purgatives are never given to cases after the tenth day of the attack. (2) Cold compresses or ice-bags are applied to the abdomen in all cases of abdominal tenderness or pain, and in hemorrhage. Turpentine stupes are also applied for tympanitic distention of the abdomen. (3) Evidences of hemorrhage, perforation or peritoneal infection contraindicate systematic cold bathing. Cold bathing is instituted in all suitable cases, but drugs are used as each case requires. Only about ten per cent. of the cases require any medication whatever, except the early purgatives, throughout the disease. (4) During the whole course of the attack whenever, three hours after a bath, the temperature in the axillar reaches 101.4° F. the bath is repeated. (5) Baths are continued after the temperature has ceased to rise to 101.4° F., during defervescence once or twice a day and for a short time afterward once every one or two days. (6) Instead of having them lifted from the bed into a tub beside the bed, the writers have encouraged the patients to help themselves. Grave cases were lifted into the tub, but as their condition improved, and in other cases, they were encouraged to help themselves and were soon able to enter the tub with but little assistance. Then a stationary tub was placed at the end of the ward and the patients, with assistance, walked every three hours to the bath and back to the bed. The most distant bed was six meters from the tub. The severest cases were placed nearest the tub and were carried to the tub until able to walk. This procedure was found to exert a very favorable influence upon the course and symptoms of the attack. In over three years the writers have had 776 cases bathed in this manner, with a mortality of 7.8 per cent. The regular and slight exercise of the muscles every third hour, and the stimulation to the system tends to relieve the passive congestion of the viscera and thus minimizes certain of the pathologic processes. (7) To be of benefit the cold bath must be given early and systematically. The favorable results of cold bathing are due to the rhythmic repetition of the stimulation of physiologic processes and of the modifications of pathologic processes brought about by a succession of baths begun early in the course of the disease.

Intestinal Sand.—R. S. Thomson and A. R. Ferguson (*Jour. Pathology and Bacteriology*, Feb., 1900) complete a preliminary communication made before the Clinical Society of Glasgow on an unusual case of intestinal sand occurring in a woman of thirty. She had suffered at intervals of several years from symptoms of catarrh and moderate dilatation of the stomach, associated at times with signs of decided neurosis. Decided constipation was the only condition that drew attention to the intestines. The patient was kept at rest and fed on small quantities of milk, with occasionally fish and toast. Lime-water was also given with the milk. While the diet was confined to milk and lime-water it was observed that considerable quantities of sandy matter were passed at each defecation. This same kind of sandy material had been passed for several months prior to the time of reporting. The sandy matter was heavy, sinking rapidly to the bottom of the vessel, brownish-yellow in color and resembled uric acid quite markedly, both macroscopically and microscopically. The crystals were, however, quite irregular in form and the tests for uric acid were all negative. The sand was not of vegetable origin as a microscopical examination showed. Chemical analysis revealed 25 per cent. organic matter and 75 per cent. inorganic matter, of which there were 11 per cent. calcium carbonate, 87 per cent. tri-calcic phosphate and 1 per cent. silica. The sand was unchanged by hot or cold water, alcohol, ether, chloroform or any of the usual solvents, but it was readily dissolved in weak acids. The coloring pigment was of interest in that while closely related to many of the well-known pigments of the body, yet it was distinct and the authors believe that it represents a substance intermediate between the ordinary bile pigments and their ultimate product, stercobilin. The ready solubility of the intestinal sand in dilute acids suggests that it was formed, neither in the upper part of the small intestine, where practically unchanged bile pigments are present, nor in any part of the colon, in which stercobilin is the prevailing pigment, but in the ileum, where the intestinal contents are most liable to be alkaline in reaction.

New Blood Parasite.—It is not often that in a journal of high scientific repute one finds details of new discoveries which bear the ear-mark of bad observation. Von Tunzelmann (*Jour. of Pathology and Bacteriology*, Feb., 1900) describes some remarkable parasites found in the blood of Chinese suffering from a disease which he says is common to that country. The parasite is classed as one of the molds, with branching hyphæ and numerous spores. The hyphæ are described as being ½ to ¾ of an inch in length, as they emerge from the capillaries, the illustrations apparently making them out to be much wider than the ordinary capillaries of the finger. The precise technic is not given, but it may be suspected that the blood was examined in a contaminated solution of some sort, either the ordi-

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nary salt solution or the staining fluids were contaminated with one of the common molds. The author says that every one has them. Even the gravy of hot roast-beef abounds with them. If editors of scientific periodicals cannot shield the non-technical student where will such pseudo-science, such as this appears to be, bring us?

Apomorphine as an Hypnotic.—Authorities on materia medica usually state that apomorphine has no hypnotic or narcotic action. Considerable experience with the use of this drug has induced C. J. Douglas (*N. Y. Med. Jour.,* March 17, 1900) to believe that there is no remedy so near an approach to an infallible hypnotic as apomorphine, and he has found it equally useful in all forms of insomnia regardless of the cause. It should be given in a single dose of about one-thirtieth of a grain, injected subcutaneously. The object is to give a dose that, on the one hand, is large enough to produce sleep, and, on the other is so small that nausea and vomiting are avoided. Hence, individual susceptibility must be considered. It should be given when the patient is in bed, for its effect is very rapid and the patient will usually fall into a restful sleep within five to twenty-five minutes. If no results are observed within one-half hour the dose is too small. The effect persists for from one to two hours, but in many cases of insomnia the patient will sleep all night. In active delirium it acts very well and a slight nausea may increase the effect in those cases. There is no possibility of a "drug habit," for it becomes a vigorous emetic if the dose is increased.

Therapeutics of Heart Disease.—The indications for treatment in the various acute and chronic conditions of the heart are reviewed in a valuable article by W. H. Thomson (*Med. Record,* March 17, 1900). The routine fashion of treating nearly all cardiac troubles with digitalis is thoroughly deprecated. The acute disorders he divides into those of an inflammatory character and those due to a parenchymatous myocardial degeneration, secondary to diphtheria, the acute exanthemata, or sometimes appearing in cases of rheumatism. Overstrain may produce an acute condition with its symptoms and indications for treatment differing from the above, and this may occur not only in healthy hearts but also from injudicious exertion in convalescents from typhoid. In the acute inflammatory states the condition is one of great excitement of the viscus, and rest is, therefore, one of the most imperative indications. When the heart is beginning to fail in acute cardiac inflammations, as the pulse, dyspnea, and other signs develop, it is from an overfatigue which in the majority of cases will only be aggravated by administering heart stimulants. With febrile temperature, cardiac pain, hurried respirations and rising pulse with distended rhythm, the treatment should be leeches to the pericardium, followed by constant poultices of flaxseed-meal with extract of hamamelis and laudanum poured on just before the cataplasm is applied, and then covered with oil-silk continuously, day and night. He believes that no vascular sedative is so potent as blood-letting which acts reflexly through the surface nerve impression. The poultices act similarly, since there is a most intimate vasomotor association between the nerves which control the blood-vessels of the viscera and of the corresponding skin areas above them. The drug which is the ideal heart sedative in all such conditions is aconite, since it promptly alleviates cardiac pain and shows the heart beats, which is the important indication. A strong laboring heart impulse and a rapid pulse demand aconite rather than digitalis.

Where high tension exists veratum viride is much better than aconite. In cases of acute parenchymatous degeneration secondary to diphtheria or the exanthemata, surface pallor is the characteristic hue and the pulse is rapid, small and irregular. Digitalis is here a most mischievous agent. Its action is to diminish the size of the heart's cavities and is of great service when the heart walls are overdilated, but the important fact about digitalis is that it must have a normal muscle to act upon, and is, therefore, a harmful drug in these cases. Alcohol, however, should be pushed to its unmost limits with strychnine, caffeine and hypodermic injection of camphor, gr. viii; to sterilized oil, ♏xx. These remedies are also indicated in acute carditis when the heart begins to fail, and should be substituted for aconite when the heart is beating feebly instead of strongly and when the extremities become cold rather than hot. Many of the chronic sequelæ of acute endocarditis could be obviated by a prolonged convalescence, which is strongly urged, in order that the progressive involvement of the valves may be arrested as soon as possible. Prolonged rest and aconite furnish the greatest safeguard. Considerable stress is laid on myocardial degeneration, which the author believes to be one of the commonest and most efficient of all causes of failure of compensation in the heart disease of patients after middle life. It precedes valvular lesions in a large proportion of cases. In the treatment of chronic heart disease, all organs of the body which have to do with nutrition must be called on to do their share. Digitalis is here often of inestimable value, especially in cases of dilatation subsequent to hypertrophy, but it is important to realize that mercurial laxatives are most effective adjuvants to this drug. Half-ounce doses of the infusion are preferred, for which is substituted in a few days thirty drops of a mixture of equal parts of the tinctures of digitalis, strophanthus and nux vomica. When digitalis is not well borne, a very good pill may be given, composed of spartein sulphate, gr. i; powdered squills, gr. ss; caffeine citrate, gr. iss, and strychnine, gr. $^1/_{30}$. Permanent improvement, however, is to come from other agents and measures which restore nutrition rather than stimulate function. Too great reliance must not be placed on drugs. Fresh air and systematized exercise are extremely important. Iron, mercury, the

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iodides, and arsenic are oftentimes of great service as systemic tonics. Ortel's mountain-climbing, massage and Schott's saline and carbonic-acid baths are excellent in principle and very effective when adapted to certain cases.

Whooping-Cough.—A number of statistics have been deducted by W. A. Dunckel (*Med. Record,* March 17, 1900) from the two hundred and sixty-one cases of whooping-cough which appeared at the New York Dispensary from 1894 to 1900. The records of these cases are, of course, oftentimes very meager. In point of frequency, sixty per cent. were females; sixty-seven per cent. occurred between the ages of six months and five years. There were but two cases at three months and none later than ten years. Complications were noted in sixty-seven per cent. of cases and were divided into two groups. (1) Those dependent upon the violence and strain of the paroxysms, and (2) those due to lesions associated with the disease. Of the first group there were: Hemoptysis, 6; epistaxis, 2; subconjunctival hemorrhage, 1; umbilical hernia, 2; ulcer beneath the tongue, 2. Of the second group there were: Mild bronchitis, 2; severe bronchitis, 33; bronchopneumonia, 19; tuberculous meningitis, 1; pericarditis, 1; malnutrition and wasting, 8. Four cases terminated fatally, three being due to bronchopneumonia. Relapses were noted in five patients. Emphysematous changes were subsequently observed in only a few patients. It is surprising that tuberculosis is not a more frequent complicating condition. Not one of these cases while under observation had any endocardial complication, nor was it possible to be satisfied that there was any cardiac enlargement. Belladonna was sometimes used to allay the paroxysms, but the most reliance was placed upon a supporting treatment of cod-liver oil and malt preparations.

Influenza and Meteorology.—A few interesting facts are given by J. Ruhemann (*Berl. klin. Woch.*, February 26, 1900) à propos of the epidemics of influenza which have been raging in the German cities this winter. He asserts that the only meteorological factor in these epidemics worthy the name is the sun. This body's antibacterial and germicidal influences are well known especially in their bearing on the infectious diseases. Thus in Berlin, the smallest quantity of sunshine measured by the meteorological bureau since 1893 was registered during the month of January, 1900. For the entire month, the sun shone but 9.8 hours. In 1899, Berlin had 62.3 hours of sunshine during January. During the month of December, 1899, notwithstanding the shortness of the days of this month, the sun shone for 19.0 hours—more than twice as long as during January last. In Magdeburg, a similar state of affairs existed. Since 1882 the least sunshine for January was recorded for this year, when it reached 19.0 hours for the entire month. In 1899 it was as high as 69.0 hours for the same month. In Breslau the sun shone but for 7 hours for the entire month of January. The author further states that the 9.8 hours of sunshine in Berlin occurred before the fifteenth of the month, no sunshine at all brightening the town for the remaining days. It was just in this latter half of the month that the grip epidemic became so severe and far-reaching. In 1889 the last extremely severe epidemic occurred. During that year, in January, there were 23 days in which the sun did not shine at all in Magdeburg and 22 days in Berlin. Ruhemann believes that these facts warrant his conclusion of the dependence of the influenza germ upon the absence of sunlight.

Constitutional Albuminuria.—This name is suggested by F. Martin (*Klin. therap. Woch.*, March 4, 1900) as better expressing the presence of albumin in the urine without nephritis than the older names, cyclic or physiological albuminuria. No doubt the condition is a pathologic one, depending most likely on a congenital weakness of the glomerular epithelium which, from the mere strain of being up and about, allows albumin to pass. The disease may disappear or gradually pass into a true nephritis, but experience is as yet not sufficiently great to determine to what percentage the latter ever takes place. The relation of the disorder to organic renal disease is the same as that of alimentary glycosuria to true diabetes. It is important to be on the lookout for this form of albuminuria, for the condition is by no means rare, and children who easily tire at school, suffer from headaches, perhaps are troubled with heart-weakness, must be regarded with suspicion. It would seem that the best treatment, in addition to avoiding the use of alcohol and other irritants, would be to keep these patients in bed. They do not, however, feel sick enough for this and a prolonged rest only demoralizes. Hygiene measures and careful training are the chief mainstays. Often the abnormality corrects itself, and the author has seen a case go through pregnancy without untoward results.

Opening Pericardial Sac.—C. Ogle and H. Allingham (*Lancet,* March 10, 1900) noticed during an operation for suppurative pericarditis that the heart's action was not interfered with by rubbing off fibrin from its surface, but that it was actually improved. Since these fibrin patches interfere with drainage and tend subsequently to form adhesions, it is important to know that the heart may be handled rather freely without danger. By the ordinary operative route one can not reach the base and posterior aspect of the heart to clean thoroughly, and often the pleura is injured and may be infected. To get at all sides of the heart and to avoid damaging the pleura, they devised the following operation: A three-inch incision is made from the costo-xiphoid angle along the lower border of the left seventh cartilage, which is then exposed by separating the abdominal muscles from it. It is then pulled upward and outward to expose the lower surface of the diaphragm and the cellular inter-

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val at the costoxiphoid angle, through which a good-sized opening is made. A mass of fat is exposed in the space between the sternum, diaphragm, and pericardium. This fat is pulled downward with the diaphragm, when the pericardium presents itself, and can be freely opened below and in front, and a finger inserted to explore the entire sac and remove fibrinous masses. The peritoneum may be exposed early in the operation, but is pushed away without damage as in suprapubic cystotomy. The method has the following advantages: No possible damage to pleura; drainage from the most dependent part of the sac, through a large opening not bounded by cartilage or sternum; ease and efficiency in exploring and cleansing the heart. In certain cases with rigid cartilages, it may be necessary to resect a portion of the seventh cartilage.

Terpinol in Hemoptysis.—In the continued bleeding of tuberculosis, F. G. Janowsky (*Klin. therap. Woch.*, Feb. 25, 1900) has found terpinol far superior to the usual remedies. After eight to fifteen doses of 3 drops each, given at short intervals, the hemorrhage in most cases ceased. If no improvement follows after thirty-six hours, the drug had best be discontinued. As compared with turpentine, terpinol easily ranks first. Albuminuria or hematuria never followed. Occasionally a slight burning in the pharynx is complained of, which can easily be prevented by giving the drug in some demulcent.

New Hernia Suture.—L. Freeman (*Annals of Surgery*, March, 1900) describes his hernia suture. When ordinary material and methods are used, a suture, once the wound is infected, must come away before complete recovery can ensue. Even with primary union a late, sluggish inflammation, causing a sinus, often occurs. To avoid these complications Freeman devised the following technic in suturing which will be described in connection with inguinal hernia. Three or four sutures, silk-gut, silver wire, or silk, are used, doubled, with both ends threaded through the eye of the needle. These are passed through Poupart's ligament and then through conjoined tendon as in Bassini's operation. There is now a series of loops along Poupart's ligament through which a rigid silver wire is passed. Along the conjoined tendon project the free ends of the sutures, between which another silver wire is passed and the sutures tied. This makes a series of quilled sutures. The upper ends of the wires are placed high enough to sufficiently close the internal ring, and the lower ends are bent so as to project out of the lower end of the wound. The suture ends are left long and are brought up out of the wound, which is then closed as in Bassini's operation. After ten to fourteen days there is fairly firm union and the wires are withdrawn through the lower end of the wound and the sutures are then easily withdrawn. After union has occurred sutures are of no utility, for if there is no tension they are superfluous, and if there is tension they cut the tissues. The method has the following advantages: It is simple and quickly done; considerable tension is easily overcome; the sutures cannot cut through; a large amount of muscle is closely and evenly applied to Poupart's ligament, favoring firm union and, therefore, permanent cure; the sutures are readily removed leaving nothing to irritate the tissues and cause sinus formation. The same method may be adapted to other forms of hernia.

Treatment of Pneumonia.—In the recent numbers of the *Practitioner* numerous interesting articles have been written by the best authorities of England on pneumonia, its various phases and treatment. In the March number J. Duschfeld has briefly reviewed the various modes of treatment of the past, and concludes that the routine use of such methods as venesection, large doses of tartar emetic, or digitalis have never reduced the mortality of the disease, and, since each individual case presents its own peculiar indications, no routine treatment should ever be adopted. He advises, so far as the general management and diet are concerned, that the patient should always be kept in bed, in a well-ventilated room (60° to 63° F.) and should wear light flannel garments. A daily bath in tepid water should be given and the mouth and tongue kept clean and moist. The food should be light, but abundant and nutritious. Milk (3 to 4 pints in twenty-four hours) mixed with lime-water, together with beef tea and broths are usually well borne. Too much liquid food should not be given, especially in alcoholic patients, on account of the danger of producing flatulence and tympanites which may cause cardiac dilatation, to which alcoholics are particularly prone. He usually gives from the onset quinine (two doses, 5 to 10 grains, in twenty-four hours), and the application of an ice-bag to the affected side, except in old people and those troubled with bronchitis. For the pleuritic pain, a mustard poultice, or, if severe, leeches give considerable relief. Morphine may safely be given in the early stages. The use of quinine, ice-bag and repeated cold sponging usually keeps the temperature down sufficiently, but the cold bath or ice-pack may be necessary. Antipyretic drugs are seldom used at the present time. The circulatory system requires the most careful attention. Except in plethoric subjects, the use of digitalis should be begun early. In old people, alcohol and carbonate of ammonia have better effects. The subcutaneous use of strychnine is often beneficial, and where deficient aeration exists the use of oxygen is advisable. For insomnia, morphine may be used at first, but when expectoration appears it may be a dangerous drug and chloralamid (10 to 20 grains) is more useful. Paraldehyde (2 to 3 drams), especially in alcoholics, is particularly efficacious. The noisy, active delirium is best treated by the cold-pack or bath combined, if necessary with the above hypnotics. The presence of albumin and casts in the urine is usually due to the high temperature and, therefore, re-

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quires no treatment. If collapse occurs at the time of crisis, hot applications should be used and stimulants, such as alcohol and strychnine, subcutaneously.

Gangrene of the Lungs.—There are three varieties of this, the diffuse, the circumscribed, and the pleuropulmonary, and the last two, according to H. Vulliet of Lausanne (*Revue Méd.*, Feb. 20, 1900), are best treated by operation. Portions of one or more ribs are removed, the gangrenous cavity entered, and all pus-pockets broken up. Free drainage is established. If the pleura is not adherent the risk of the operation is increased, but the most serious complication is hemorrhage, which can be stopped only by firm packing. Following the operation the cough and expectoration may persist, but it is no longer fetid, is less purulent, and with internal medication slowly subsides. Success depends less on surgical ability than on an early and accurate diagnosis.

Progressive Muscular Atrophy.—The peroneal type of this disease is rare and the report of two cases by T. Diller (*Phila. Med. Jour.*, March 17, 1900) is of interest. The especial points of note in these cases were: The occurrences of the disease in two members of the same family; its slow, insidious onset in the leg muscles with the steady progress of palsy and atrophy, with later involvement of the thighs and then of the arms; the absence of knee-jerks; the age of onset, in both cases before twenty years; the absence of hypertrophy; the presence of quantitative and qualitative electrical changes in the wasted muscles and the absence of pain. The author contributes nothing to the pathology of this affection, as his patients have not come to autopsy. He believes, however, that the disease is of the myopathic type of atrophy in that it is due to an original embryologic defect and is a family affection.

Senile Cataract.—From time to time there are reports of the spontaneous disappearance of senile cataract. These reports have been fully substantiated and the foremost ophthalmologists now freely recognize the possibility of this sequence. W. L. Pyle (*Phila. Med. Jour.*, March 17, 1900) considers this subject in detail showing that the reported cases may be classified as: Cases in which there was absorption after spontaneous rupture of the anterior or posterior capsule; cases in which there was spontaneous dislocation of the cataractous lens; cases in which there were intracapsular resorption of the opaque cortex and sinking of the nucleus below the axis of vision, after regenerative changes in Morganian cataract, without rupture of the capsule or dislocation of the lens; cases in which there was complete spontaneous resorption of both nucleus and cortex without history of ruptured capsule, dislocation or degenerative changes of the Morganian type, and cases of spontaneous disappearance of incipient cataract without degenerative changes or marked difference in the refraction. He further reports illustrative cases of each class. With reference to the treatment of senile cataract he says that drugs have proven valueless, and, that, further than good hygienic modes of living, careful and repeated refraction, and the proper use of the eyes, nothing has yet been demonstrated to be of distinctive curative value.

Lesions in Brain Concussion.—An interesting post-mortem account of a severe fracture of the skull and its effects on the brain is given by G. Hauser (*Deutsch. Archiv f. klin Med.*, Bd. 65, Hft. 5 and 6). The fracture was due to a blow in the right temporal region and from there extended forward to the posterior part of the orbital roof anterior to the wings of the sphenoid, whilst below it reached the middle cerebral fossa. An examination of the brain showed the changes to be most marked in the right corpus striatum and left thalamus. The nodullary sheaths appeared segmented and degenerated and the axis cylinders swollen. No marked lesions could be found in the ganglion cells. Dilatation of the perivascular lymph-sheaths was present in the affected areas, but no hemorrhage. Over the cortex, opposite to where the blow was received, there was extensive meningeal hemorrhage but not at the site of injury. The peculiarities of this case consisted in the severe central changes without cortical involvement and in the absence of all signs of contusion in the meninges and cortex. The symptoms the case presented were briefly as follows: First, concussion signs with recovery after several hours. Paralysis of the left arm and tongue with incomplete paralysis of both legs soon followed. Cystitis with peritonitis and hyperpyrexia preceded death.

Fracture-Dislocation of Humerus.—B. F. Curtis (*Annals of Surgery*, March, 1900) says that fracture-dislocation of the upper end of the humerus requires very early operative interference, except in the few cases which can be reduced by manipulation. Operation consists in resection or reduction. The best functional result obtained after resection is not to be compared to the nearly perfect joint sometimes obtained by reduction. The result of reduction may be far from this perfection and yet be as good as the best result from resection. Resection is easier and leaves a more easily drained wound. For anterior displacements the incision parallel to the anterior border of the deltoid is best. Subglenoid and posterior displacements require posterior incision, preferably Kocher's. The head may be fastened to the shaft by either a wire or a pin. The great danger of the operation is infection, and a small drain is advisable where perfect asepsis has not been attained. It is very important to begin passive motion early, ten to fourteen days after operation, superintended by the surgeon. Voluntary motion is not allowed until consolidation is well advanced. Early motion prevents adhesions, and, more important yet, helps to prevent atrophy of the muscles, which is bound to occur to some extent, and partly explains the difficulty of obtaining good functional results when operation is done more than a

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month after injury. After resection the patient may move the arm as freely as he chooses after the wound is healed.

Angina Pectoris.—Wm. Miller Ord (*The Polyclinic*, London, Jan., 1900) says that in attacks of this syndrome we are to consider degeneration of the heart-muscle, dilatation, hypertrophy, valvular disease, and arterial tension. There is a class of cases with feeble, ill-nourished heart, low tension pulse, and overirritability of the nervous system. In case of valvular disease, compensation may be temporarily upset by excitement or exertion, and may result in a characteristic attack of angina. Attacks are brought on also by moving about actively after a meal, by going from a warm room into a cold wind, by digestive disturbances, and by constipation. Glycosuria not infrequently accompanies the attack. With regard to treatment, have the patient avoid excitement or overexertion, take rest after meals, and keep the bowels open. Nitroglycerin or digitalis may be indicated; or, sometimes one-hundredth of a grain of nitroglycerin with five or ten drops of tincture of digitalis may be given, three times a day, for long periods with benefit. Anemic patients require iron.

Movable Kidney.—C. M. Moullin (*Brit. Med. Jour.*, March 10, 1900) says that during life the kidneys with undisturbed anatomical relations possess a range of movement of from 3 to 5 cm. Therefore, it is hard to define a movable kidney. The most satisfactory test is the failure of the kidney to reascend with the diaphragm on tranquil expiration when the patient is standing erect and has forced it down by deep inspiration. This is a sufficient test even although the kidney come only low enough for its lower end to be felt. On the other hand, when it follows up the diaphragm, it is not unduly movable even if half its surface is palpable. The kidneys are maintained in position by pressure of the abdominal viscera, and by the way they fit into the lumbar recesses which are pear-shaped with the small end downward. Neither of these two factors is sufficient alone. In women the lumbar recesses are more shallow and cylindrical, especially on the right side. When man assumed the erect posture, the lumbar recesses became shallower and broader, especially at the lower end; gravity increases the tendency to free mobility, and the other viscera being in front exercise their restrictive influence at a mechanical disadvantage. Movable kidney is certainly hereditary and common, more in women especially multiparæ, and more on the right side. For treatment one chooses between an abdominal belt, with massage and exercises, and nephrorrhaphy. The belt succeeds only in mild cases. Nephrorrhaphy never fails if properly executed.

Diffuse Infective Peritonitis.—Persistently fatal as are the majority of cases of this condition yet during the past five years prompt surgery has resulted in recovery in a number of instances. Chas. H. Goodrich (*Brooklyn Med. Jour.*, March, 1900) cites twenty-eight cases, of which sixteen were due to appendicitis with 5 recoveries, two due to pancreatitis with one recovery, and one to salpingitis, with recovery. The others were all fatal and were due to typhoid ulceration, ulcer of transverse colon, carcinoma of colon, intestinal obstruction, and hemorrhage into the peritoneal cavity. Two were post-operative. The types of diffuse peritonitis are: The acute septic, with scant serous exudate and many streptococci, very fatal and usually post-operative; the suppurative; and the fibrinoplastic, where the suppurative process is accompanied by a tendency to form adhesions. As to treatment, dry sponging or free irrigation with salt solution met with equal results. For drainage glass tubes are to be preferred, wicking works fairly well, gauze becomes clogged, and in two cases, fecal fistulæ followed the use of rubber tubes. In two of the successful cases no drainage was used and the foot of the bed was raised to an angle of 45°. The author advises that the intestines be handled as little as possible, manipulations to be made with instruments where suitable; and he questions whether the shock induced by mopping the serous coat does not counteract the benefits of the mopping.

Constipation in Infants.—A good means of combating the constipation of infants is to give a decoction made of prunes and two to three grams of the pods of senna or of senna combined with manna. M. Sevestre prescribes the following preparation:

℞ Boiling water.....ʒvi
Manna in flakes.....ʒi
Senna pods.....ʒi
Powder of burnt coffee.....ʒiiss.

M. Strain and administer during the day.—*Bull. gen. de Therapeutique*, 8 Feb., 1900.

For Acute Bronchitis.—For this most painful stage, with intense cough and no expectoration, when the ordinary remedies are often of little service in easing the patient, Edgeworth recommends caffeine in connection with alkalies. He gives twenty to thirty grains of citrate of acetate of potassium every three or four hours during the day, and five grains of caffeine on retiring at night. This overcomes the spasms of the bronchial muscles and facilitates expectoration.

Powdered Sulphur for Scabies.—Sherwell has found the following procedure both inexpensive and efficacious, especially when several members of a family are affected, as they can easily all be treated simultaneously, and the parasite be thoroughly routed. The patient takes a bath, soaps himself well, and is then rubbed over his entire body with washed sulphur (a teaspoonful is sufficient). He puts on a clean nightshirt and gets into bed with clean sheets; half a teaspoonful of flowers of sulphur is then thrown over him and the covers shaken a little to distribute the powder. This procedure is repeated every two or three days for a week or two, by which time a cure should be effected.

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SATURDAY, MARCH 24, 1900.

THYROID MEDICATION AND OBESITY.

THAT medicine is not free from its fashions is continually evidenced in the reflections of its practice in medical literature. Every dog has his day, however, and the thyroid therapy of obesity, which is now having its noon-day of popularity, bids fair to call forth some dissenting voices. In a recent number of the *Prager med. Wochenschrift* (Feb. 8, 1900) A. Porges enters a protest against the use of this agent in the treatment of obesity, and gainsays the widespread belief that nothing but good can result from its administration. With reference to their susceptibility to thyroid extract there are two classes of patients. The patients of the first class are constitutionally rebellious to the drug and their body weight remains quite unaffected even after prolonged courses of treatment, so that for them at least the extract is useless. The patients who lend themselves more readily to this form of medication are individuals who present certain remote but still demonstrable affinities, both psychically and physically with those effected with myxedema. In these experience has shown that after from three to eight weeks' medication a drop in weight of from four to twenty pounds may be counted on. The advantages attendant on the simplicity of the treatment, however, which requires none of the elaborate dietetic and other restrictions imposed by the older methods, are usually rather more than counterbalanced by the annoying and often really distressing palpitation, restlessness, tremor and insomnia produced. But still more serious is a condition which experiments on animals and clinical observation have shown to be constant, *viz.*, a great increase in the nitrogen coefficient of the excreta, indicating a pathological breaking down of the body albumin. What renders this of still graver import is the fact that the morbid processes once under way do not cease on withdrawing the drug, but that there is always a possibility of their continuing for an indefinite period of time. As opposed to the older, safer, surer and always equally efficacious methods the author thinks that the uncertainties, discomforts and very possible dangers accompanying the use of the gland extract should exclude this field at least from the domain of organotherapy. In closing, he quotes the following conclusions of Epstein's:

(1) Obesity-cures with thyroid extract are practically unsatisfactory, because the attending weight loss is inconstant and under ordinary dosage frequently does not take place at all. (2) Obesity-cures conducted with this agent are not rational; as such can be considered only those which result in the obstruction from the body of fat alone. (3) Finally, the use of thyroid preparations in these cases is uncalled for, as there are enough other means at hand, if properly applied, to effect the desired result without any risks.

THE TOLERANCE OF BROMIDES IN ELDERLY EPILEPTICS.

NOTWITHSTANDING that we are beginning to lay less stress on the drug treatment of epilepsy, care in such methods is none the less important. Of all the sedatives used the bromides still hold first place. It is very unfortunate that so much mystery still cloaks the tolerance of bromides in epileptics. Some patients are able to take large doses, while others show evidences of intoxication on the slightest exhibition of the drug. The symptoms of poisoning are not influenced by age, as bromism in the aged is manifested by the same symptoms as in the adult. It is always dangerous to give very large doses of bromide at the onset in the treatment of epilepsy, although this danger can be met in great part by attending to intestinal antisepsis and cleanliness of the skin. To test the tolerance of the drug in any patient the bromides should be given without adjuvants,

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as the latter not infrequently provoke intolerance. The maximum dose should always be determined by a slow, gradual increase of the drug. Individual tolerance varies extremely, especially in the aged, where bromide intoxication is apt to supervene because of organic changes in the heart and arteries. Intolerance of bromide may be shown by indigestion or vomiting, as well as by the usual skin and reflex symptoms.

Féré, in a study on the tolerance of bromides in guinea-pigs (*Revue de Méd.*, Jan. 10, 1900) found that after death the pigs still held more than thrice the daily dose of the bromide salt. He also demonstrated that some epileptics eliminated nearly the entire daily dose of bromide by the urine. Elimination was most active at the beginning of the treatment, an equilibration between the ingested and excreted bromides generally occurred in a period of two or three weeks. While, as a rule, aged epileptics show a diminished tolerance, the reverse is sometimes true, and in such cases Féré shows that the bromides may be administered with surprisingly good results. He presents many illustrative cases; one, man of 61 years, epileptic for twenty-six years, had not been given bromides the first four years of his hospital care, on the ground of the well-known intolerance to the drug in the aged, but as a final resort, when no other medicines could be found to influence the disease beneficially, the patient was placed on bromide. The commencing daily dose was 60 grains, increasing the first year to 150 grains; during the second to 225 grains, and the third year to 240 grains. The annual number of major attacks decreased in accordance with bromide medication in the adult. He passed from daily attacks to one attack in two months; at the expiration of three years' treatment the patient died of an intercurrent disease without manifesting bromide intoxication.

While giving bromides to the aged, particular attention must always be directed toward guarding carefully the threatened intoxication, as a relapse in the disease caused by an imperative suspension of bromide always necessitates a much larger dose of the drug on its resumption.

THE PATHOLOGICAL INSTITUTE OF THE NEW YORK STATE HOSPITALS AND THE MEDICAL SUPERINTENDENTS.

IN our last issue we called attention to the threatened destruction of the Pathological Institute of the New York State Hospitals and asked for the responsibility of a movement against this plan of research, the most original and most fruitful that has ever been inaugurated in American psychiatry. It appears now, from the minutes of the last conference of the superintendents of the State Hospitals, that the men who should above all be eager and enthusiastic to hasten progress in our knowledge of abnormal mental phenomena, are the very ones who are ready to undo the advance work that the Director of the Institute has accomplished in bringing psychiatric research out of asylum restriction into the realm of general science.

We were under the impression that the necessity of scientific psychiatric research by the State was universally conceded when this Institute was first founded. Has the new Commission in its omniscience discovered that the benefits of scientific research are not wanted in the care of the insane? Is the President of this Commission the man to assume the responsibility of deciding whether or not the State shall be the patron of scientific work? Shall Dr. Wise dictate that researches in insanity are no part of the State function? This is a most important question. This is a matter for consideration of the medical and psychiatric profession at large as well as the general public, and not a question that Dr. Wise, Mr. Osborn or Dr. Cowles may arbitrarily settle by virtue of their power.

The sole function of the State in this connection is not to act as the simple custodian of the insane; there is implied in this authority the responsibility not only of doing its utmost to relieve the incapacitated, but to employ the material and the facilities, thereby afforded, of discovering the means whereby insanity can be prevented and the accumulating burden of the State relieved. There is something more in psychiatry, or at least there should be, than the grinding out of conventional laboratory data and the descriptions of lesions in individual cases. Such statistics and such data may be accumulated *ad infinitum*, but, without some generalizing principle to illuminate them, they remain only a mass of dead facts, an imperishable monument to industry, but of no vital importance. All hope of vitalizing this material lies in the Institute. That was the purpose of its organization, and is the purpose that must be steadily kept in view. If, in the judgment of those who are responsible for its existence and maintenance, its methods are not tending to that end, the methods should be changed. The Institute, however, as an instrument of scientific investigation should be preserved. Keep it free

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from politics but hold it steadily to work along lines tending to the accomplishment of the ends whereto it was organized.

MOSQUITOES AS BEARERS OF MALARIAL INFECTION.

ALTHOUGH the evidence has been steadily accumulating that the responsibility for the infection of human beings with malaria rests upon the mosquito, further tests of this theory will be awaited with interest. The London School of Tropical Medicine is making arrangements to conduct some final and conclusive experiments in that paradise of malaria and mosquitoes—the Roman Campagna.

Under the direction of Dr. Patrick Manson a bungalow is being erected in the most malarious part of the Campagna; this will be thoroughly guarded and screened by mosquito curtains, and here from May to October next will reside two skilled observers with their servants. Every precaution will be taken to guard against the possibility of being bitten by a mosquito. It is confidently believed that the entire party will thus escape malarial infection. In addition to this negative testimony, laboratory-bred mosquitoes which are known to be free from malarial infection will be taken to Rome and allowed to suck the blood of patients suffering from a mild tertian form of malaria, and then taken back to London. After a sufficient time has elapsed for the parasite of malaria to develop in their bodies and reach their venom-glands, these mosquitoes will be allowed to bite several healthy individuals who have never been out of England, or had any opportunity of contracting malaria. If the mosquito theory of disease be correct, then most of the persons thus subjected to infection should develop the disease within ten days.

ECHOES AND NEWS.

NEW YORK.

Duryea Convalescent.—Walter Duryea, the patient at Roosevelt Hospital who has been suffering from fracture of a cervical vertebra, is steadily improving and gives substantial hope of complete recovery.

Obituary.—The New York Neurological Society records with sorrow the death of Dr. John Cargill Shaw, one of its members and its third president. As president of the society he was an indefatigable worker, and his untiring energy was of great service in the early days of its history.

Kent Mansion for a Hospital.—The old Kent mansion, at Second Avenue and Sixtieth Street, Brooklyn, has been selected as the site for the new Bay Ridge Hospital, Dispensary and Training School for Nurses.

Contagious Diseases.—For the week ending March 17, 1900: Measles, 729 cases and 18 deaths; diphtheria, 256 cases and 45 deaths; laryngeal diphtheria (croup), 17 cases and 14 deaths; scarlet fever, 193 cases and 15 deaths; smallpox, 7 cases; chicken-pox, 33 cases; tuberculosis, 230 cases and 188 deaths; typhoid fever, 19 cases and 9 deaths; cerebrospinal meningitis, 3 deaths. Totals, 1484 cases and 292 deaths.

United Hebrew Charities.—The reports for February of the various committees of the United Hebrew Charities show that during that month the total number of applications for aid received and dealt with reached 4209. Relief was refused for sufficient cause in 942 of these cases.

Improvements at Bellevue.—Architects have filed plans with the Building Commissioner for the improvement of the Marquand Pavilion of Bellevue Hospital. The changes include the construction of a new auxiliary operating-room and are to cost $5000.

Misplaced Charity.—A boy named Andrew McEnaney was placed in St. John's Home, Brooklyn, a charitable institution, by his guardian in April, 1899. Several weeks afterward the boy escaped from the Home and went to live with his brother. His guardian instituted legal proceedings to secure the custody of his ward so as to return him to the institution. It developed during the hearing in Court that the boy's guardian holds $10,000 in trust for him; he will, therefore, not be likely again to see the inside of an eleemosynary institution.

Medical Legislation.—Governor Roosevelt has signed a bill providing that the State Commissioner of Agriculture may quarantine a district in which rabies is present. The bill exempts from liability any person who may kill an animal so afflicted. A bill has passed the Legislature appropriating $10,000 per year for the slaughter of animals infected with tuberculosis. The Assembly has passed the bill providing for pure beer, ale and porter by limiting the legal ingredients to hops, malt, pure water and pure yeast. The Senate Judiciary Committee has reported favorably the bill giving the State Board of Charities power of visitation and inspection over the Society for the Prevention of Cruelty to Children. The bill regulating the working-hours of pharmacists and drug-clerks in New York City has been defeated in the Senate by a vote of 21 to 20.

PHILADELPHIA.

Jefferson and Princeton.—The report that Princeton University had made overtures for a

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union with Jefferson Medical College has been denied by President Patton, who states that there is no immediate prospect for a medical school at Princeton. Dissection is prohibited in New Jersey.

Homeopathy.—The Philadelphia Post-Graduate School of Homeopathics has practically been absorbed by the Dunham College of Medicine of Chicago, the Dean, Dr. J. T. Kent, also going to the latter place. The question of organizing another school here is being considered.

Health Report.—Deaths in the city for the week ending March 17th were 580, an increase of 69 over those of last week and an increase of 60 over the corresponding week of last year. Contagious diseases: Diphtheria, 63 new cases, 22 deaths; scarlet fever, 56 cases, 3 deaths; typhoid fever, 106 cases, 17 deaths. Measles have been unusually virulent, 63 new cases and 26 deaths being reported. There were 7 deaths from influenza.

Anatomy of Hanging.—At a meeting of the County Medical Society, March 14th, Dr. Edmund W. Holmes stated that the majority of deaths from hanging were caused by apnea instead of dislocation or fracture of vertebræ. In experiments upon the cadaver only one fracture of the atlas occurred. The force of the drop is exerted in the line of the body on the under surface of the chin and occiput. Unconsciousness is caused by concussion of the brain due to the sudden impingement of great force at these points. Asphyxia and deaths follow, a fracture or dislocation of the cervical vertebræ being an accident.

Prize Essay.—No essay worthy of the Samuel D. Gross prize of $1000 having been received by January 1, 1900, the trustees will award the prize October 1, 1901. The conditions governing the prize are that it "shall be awarded every five years to the writer of the best original essay, not exceeding 150 printed pages, octavo in length, illustrative of some subject in surgical pathology or surgical practice, founded upon original investigations, the candidates for the prize to be American citizens." The trustees are Drs. W. W. Keen, J. Chalmers DaCosta, and J. Ewing Mears.

College of Physicians.—At the Section on Gynecology, March 15th, Dr. Barton Cooke Hirst reported the case of a woman who had introduced a piece of wood and a buttonhook into the uterus to cause abortion. She was operated upon five weeks afterward. The uterus and a knuckle of bowel had been perforated. These perforations were closed, the critical condition of the patient making a more radical operation impossible. The surrounding bowel looked healthy. A fecal fistula formed on the second day. Three weeks afterward, a curious slough was noticed when the wound was dressed. This was lifted out and found to consist of the caput coli and four inches of the ileum. The patient now passes feces naturally by the anus. She is comfortable and has gained twenty pounds in weight.

Dr. G. G. Davis reported a most remarkable case. The patient was a married woman of twenty-five. The menses gradually ceased during which time the patient's voice became harsh and hair grew on the face, breast and extremities, shaving of the face being necessary. The left side of the abdomen enlarged and in 1895 a large multilocular cyst of the left ovary was removed. The menses, which had been absent four years, reappeared thirty-one days after operation and the patient gained forty pounds in weight. Fifteen months afterward she became pregnant. During pregnancy her voice became less harsh and the hair fell out of the chest and abdomen and became much less marked on the face and extremities. Two lumps having appeared in the line of the incision, a second operation was performed in January, 1899. A large mass containing both liquid and solid contents was found attached to the posterior surface of the scar and projecting into the abdomen, being nourished by omental vessels. There was no recurrence at the site of the original cyst. Later a lump appeared to the left of the incision and large masses could be felt in the abdomen. The patient died in January 1, 1900. The growth last removed was papillomatous with probable carcinomatous degeneration. An interesting question is, What caused the growth in the scar of the first incision? Two explanations were suggested: That the wound was infected by the cyst contents at the time of operation, or that infection had taken place from contact of the tumor before removal.

CHICAGO.

Hospital for Consumptives.—The contributions for this hospital now amount to $16,376.

Free Medical Dispensary.—Under the auspices of the Englewood Bureau of Associated Charities, a free medical dispensary has been opened at 611 Sixty-third Street. The medical staff consists of Drs. Frank Billings, Weller Van Hook, W. E. Schroeder, Frank X. Walls, Frederick R. Green, Harry Kahn, and H. T. Tillotson.

Defense of Medical Inspection.—The attorneys of the Chicago Board of Education have filed an answer in the Superior Court to the petition for a mandamus, asked by Paul Wright, who asserted that his daughter, Mary, had been illegally prevented from reentering the Kershaw School by the operation of the medical inspection rule. The contention of Mr. Wright, that his daughter had the certificates of the family physician that she was without contagious disease, is answered by the attorneys with the statement that unreliable certificates from family physicians have become so frequent that the Board has been compelled to employ medical inspectors. The attorneys for the Board claim that as the result of the medical inspection in the public schools, there has been a decrease of contagious and infectious diseases since January of over 60 per cent. The officials

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of the Board, intend, if necessary, to carry the case to the Supreme Court before abandoning the rule requiring medical inspection of pupils before they shall be permitted to reenter school.

Mortality Statistics.—According to the weekly bulletin of the City Health Department, during the week ended March 10th there were 526 deaths reported. Pneumonia was the chief cause of death, claiming 105 of the total mortality, this being 5 more than during the week preceding and 1 more than the corresponding period of a year ago. Of the total deaths 105 were among children under one year of age, and 112 were of persons over sixty years of age. During the week 12 fewer deaths from diphtheria were recorded as compared with the preceding week, but the mortality from this cause is still in excess of the corresponding period of 1899. The mortality from scarlet fever is steadily diminishing, the 5 deaths from this cause being the fewest reported for any one week during the year, and is less than during the corresponding period of a year ago.

Castor Oil in Neuralgia.—At a meeting of the Chicago Academy of Medicine, held March 9th, Dr. Harold N. Moyer read a paper on this subject in which he said that during the last two years he has treated about fifteen cases of neuralgia by this method, but only seven of these patients were sufficiently long under observation to enable one to speak definitely of the results of the treatment. Some years ago Dr. A. J. Ochsner called his attention to the value of castor oil in the treatment of neuralgia, particularly of the fifth nerve. Five of the cases were neuralgias of the facial nerve and two were typical cases of brachial neuralgia. Of the cases of brachial neuralgia, one had lasted one week and the other two weeks. The one of the shorter duration was exceedingly severe and had been under the care of a competent neurologist for more than a week. He was given a large dose of castor oil at one o'clock, and by four o'clock the pain had largely decreased in the arm; the following night he rested well and the next morning the pain had practically ceased. Three or four doses of the oil were taken afterward, and there was no return of the pain. An acute and recent case of neuralgia of the inferior dental nerve was cured in two weeks. Other forms of neuralgia were treated with the oil with satisfactory results. The oil is administered in the morning before breakfast and the dose is from one to two ounces.

Histopathology of Melanosarcoma of the Skin.—At a meeting of the Chicago Pathological Society, held March 12th, Dr. Alfred Schalek read a paper on this subject. Melanosarcoma of the skin was previously regarded as a connective tissue tumor, but this theory has been recently the subject of much controversy among pathologists since Unna first declared that it originates from the epithelium of the surface. Ribbert takes another view, claiming that a special pigment carrying connective tissue cell, the chromatophore, is the only possible matrix of pigmented moles and melanosarcoma arising from them. The histological examination of sections of several pigmented nevi and melanosarcoma of the skin show very nicely the gradual separation of pigmented epithelium from the rete; they become isolated and undergo a metablastic change and are surrounded by fibrillar connective tissue, form alveolar nests of new cells, and are particularly stellate and branched cells of the shape of chromatophores. The writer arrives at the same conclusion as Unna, that melanosarcoma of the skin is of epithelial origin and should be classed with carcinoma.

Nitse's Cystoscopy in the Female.—Dr. Gustav Kolischer, at a meeting of the Chicago Medical Society, held March 14th, read a paper on this subject. The principle of modern cystoscopy consists in unfolding the bladder by distending it to such an extent that its inner surface becomes visible, throwing light into the viscus either by means of reflected mirrors or by introducing an electric lamp into the cavity. The bladder is distended with air or water. The first method was introduced by Pawlik, and later on utilized by Kelly. For the second method the profession is indebted to Nitse. In performing Nitse's cystoscopy the bladder is filled with water through a catheter; general or local anesthesia is not required. Nitse's method is preferable to others as far as the comfort of the patient is concerned. From an experience extending over ten years, and a large amount of clinical material to work on, after having previously used Pawlik's cystoscopy, the author believes that cystoscopy as practised by Nitse is far superior to any other method in that it is exact and comparatively harmless.

GENERAL.

A Needle in the Appendix.—A sewing-needle, two and one-half inches long, was recently found in the vermiform appendix of a patient operated upon at Hartford, Conn., for appendicitis. The young woman remembers having swallowed a needle several years ago.

Studying Plague Quarantine.—The President of the Board of Health of Honolulu is visiting the various quarantine stations of the United States to study the methods of managing infected vessels and crews. It is said that he comes at the request of the Federal Government. In the practical management of a plague invasion he is doubtless able to return compliments, owing to his recent successful encounter with the disease at home.

The Price of Drugs.—Justice Russell of the Supreme Court, N. Y., has handed down a decision dismissing the complaint in the action brought by the John D. Park & Sons Co. against the National Wholesale Druggists' Association for an injunction restraining the defendant from refusing to sell patent medicines except on an agreement to maintain the rates set by the defendants at which the goods are to be retailed.

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Smallpox in Paris.—Smallpox is considered to be increasing in Paris. Active steps are being taken to stamp it out. In view of the approaching opening of the Exposition the importance of this becomes apparent.

Divine Healer Arrested.—A "divine healer" has been arrested in Boston charged with using the mails for fraudulent purposes. His specialty is "absent treatment," and he had been so successful in duping people that he employed about a dozen female typewriters and copyists. It is encouraging to know that one of this pestilential gang is in the clutches of the law, with a prospect of being subjected to fine or imprisonment.

Christian Scientists Sued.—A man who was subjected by his family to Christian science treatment at Baltimore has brought suit against the readers of the First Church of Christian Science in that city, demanding $20,000 damages. He was under treatment by the "reader" of this church for more than three months, during which time he steadily failed, but was finally restored to health by a regular physician, who was fortunately called in.

The Antituberculosis Congress.—Under the patronage of Her Majesty the Queen of Italy, the Congress for combating tuberculosis wiss assemble at Naples, April 25 to 28, 1900. Physicians, naturalists, and engineers, as well as representatives of social and philanthropic sciences, are entitled to take part. The Congress will be divided in four sections, each having a separate committee of arrangements, as follows: (1) Etiology and prophylaxis; (2) clinical pathology; (3) therapeutics; (4) sanatoria. His Excellency the Minister Vavelli is president of the Congress and Professor Enrico de Renzi is chairman of the general committee of arrangements.

The Future.—Health Officer Seys, in his annual report to the Board of Public Affairs of Springfield, Ohio, states that last year only 718 children were born in that city, which has a population of 45,000. Of this number of births 216 were the children of the 1075 Catholic families, so that there were born to the remaining 39,625 inhabitants only 502 children. Instead of 718 children there should have been 1808, if the births had been equally divided among all classes. "Such conditions," observes the doctor, truly enough, "result in the downfall of all nations."

Contagious Pneumonia.—On March 8th John Swarts of Deckerstown, New Jersey, died of pneumonia. He was ninety years old. Two hours after his funeral his daughter, aged sixty-five, died of the same disease. Another daughter lay in an adjoining room seriously ill with pneumonia, and she died on March 16th. A married daughter came to nurse her father and sister, and she became ill with pneumonia and had, on March 16th, but slight chance of recovery. A son and his wife have since been afflicted with the same malady. The community has become alarmed at the evidently contagious nature of the pneumonia and will not help the sick people.

A Bad Case of Indigestion.—Arthur Shult, a dime museum freak who has posed as the "Human Ostrich," and whose specialty was the apparent eating of glass, old iron, nails, chains, etc., had to undergo gastrotomy at Johns Hopkins Hospital on March 17th. His method was to deceive his audience by adroitly palming the indigestible objects he was supposed to swallow. His reputation spread so that a class of medical students arranged for a private exhibition and frustrated his attempts to palm by compelling him to remove his coat, without the sleeves of which he was helpless. He then deliberately swallowed the junk he had intended to palm. He soon became ill and was operated on by Dr. Halsted.

Obituary.—Dr. Samuel Hayes Pennington, Princeton's oldest graduate, died at his home in Newark, New Jersey, on March 13th. He was ninety-four years old. Until about three years ago he was accustomed to take long walks and his step seemed as firm and brisk as that of a young man. He was graduated from Princeton in 1825. After leaving Princeton he attended lectures under the Rutger's Medical Faculty of Geneva College, and he received the degree of M.D., 1829. For seventeen years he was a member of the Newark Board of Education. He was a member of the Princeton University Board of Trustees and President of the Newark City National Bank. He was corresponding member of the Medical Society of Munich and of the Royal Botanical Society of Ratisbon. Princeton conferred on him the degree of LL.D. in 1835.—Dr. Thomas B. Hood, a prominent physician of Washington, D. C., died in that city on March 15th, at the age of seventy-one. He served as a surgeon in the Civil War. Subsequently for eleven years he was medical referee of the Pension Office. He had been a professor in the Harvard Medical School and was identified with many charitable institutions.

The Plague.—The Plague is reported to be still raging on the Island of Mauritius, the weekly death-rate averaging from 50 to 75 victims. Since the outbreak of the plague, January 25, 1899, between three and four thousand people have been attacked and 80 per cent. of these unfortunates have succumbed to the disease. The President of the Superior Board of Health of Mexico reports to the United States Marine Hospital Service that after thorough and careful investigation he is able to state that no case of bubonic plague has occurred on the Island of Cozumel, off the coast of Yucatan.

A new rat-proof quarantine wharf has been constructed in the Honolulu harbor. It is built on copper-sheathed piling, is well isolated, and entirely surrounded by water. The total number of cases of plague that have occurred in Honolulu from the outbreak of the epidemic to February 21st, at which time it was exterminated, is

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62, of which 53 died and 9 recovered. The Health Board of Oregon has addressed a communication to the citizens of Astoria, in that State, urging upon them the necessity of poisoning all rats about their homes as soon as possible as a precaution against the spread of the plague in case of its appearance there.

This is now the fourth successive season that plague has appeared in Bombay, and every outbreak has proved more serious than its predecessor. The number of deaths from all causes has steadily risen during the past six weeks. In Calcutta the plague retains its grip and is rapidly becoming epidemic. At Hong Kong during the first week in February a slight recrudescence of the disease occurred, 7 cases being reported on the first of the month and 8 on the second. Japan seems to be entirely free of the plague, and so is the entire continent of Europe. The success in stamping out the disease in Oporto is a most encouraging demonstration of the fact that it is possible to eradicate it, even if it seems to have obtained a substantial foothold.

CORRESPONDENCE.

OUR LONDON LETTER.

[From Our Special Correspondent.]

LONDON, March 12, 1900.

SITE OF IMPERIAL YEOMANRY HOSPITAL—ARE AMBULANCES AND SURGEONS REALLY NON-COMBATANTS?—THE LONDON SCHOOL BOARD'S WATCHFUL EYE—NEW TAX ON EYE-HOSPITALS BY SCHOOL BOARD—DENTISTS FOR THE SCHOOLS—SCHOOLS AS A FACTORY FOR SOLDIERS—ANOTHER MALARIAL EXPEDITION—THE HOUSING-BILL — "LEGITIMATE ADVERTISING" — SCURVY AND POLAR EXPLORATION.

THE site of the Imperial Yeomanry Hospital has finally been decided upon, in a bordering region of the high veldt, about twenty miles from De Aar, on the roal to Kimberley. This is in a "sanatorium" region, according to all the authorities on African climate, and the winter climate is delightful, although the appearance of the country about is hardly attractive. To have a large, well-equipped hospital like this close to the seat of war will be a great advantage in every way and save many a poor fellow the long and wearisome journey to Cape Town.

The war-correspondent of one of the London medical journals has struck out an idea upon the protection accorded to ambulances on the field of battle which has, at least, the merit of originality. He declares that it is "absurd" to regard them as entirely non-combatant, since their chief function is the relief of the slightly-wounded with a view of getting them ready to fight again as quickly as possible! There is truth in the suggestion, but we fear the principle asserted would involve rather too much if generally accepted. What of the officers and men of the Medical Corps and the immunity from intentional attack extended to them? For since the full adoption of asepsis two-thirds of their activities are unquestionably directed toward this same result. Their function now is not merely the relief of suffering and cure of the wounded, but the rapid repair of the human units of the great fighting machine. As a matter of fact, their activities add enormously to the actual fighting strength of any given army in a campaign. But are they on this account to be regarded as practical combatants? It is a nice question, but one that will be swiftly answered. The moment your enemy is disabled he becomes sacred from further attack and every agency which can relieve his suffering or save his life comes under the same egis, no matter what use he may be certain to make of his restored health in the future. Abandon this in any degree and warfare ceases to be civilized.

The London School Board is still keeping a watchful and intelligent eye upon the physical basis of education. Its Committee has just reported again upon the advisability of supplying free meals for underfed school-children, recommending that a special subcommittee be appointed to take the matter in charge and arrange for any needs of this sort being promptly met.

Another result of its solicitude about physical fitness is not so fortunate. A number of children whose eye-sight had been found defective, presumably by the teachers, were calmly given cards instructing them to have their vision examined at one of a list of hospitals appended. The result was that one fine morning several of these hospitals were suddenly overwhelmed with refraction-cases. No notice had been given to the hospitals or any attempt made to confine the cards to children whose parents were unable to pay for a private examination, and the staff, not unnaturally, objected vigorously. Now the Central Hospital Council for London has taken the matter up and addressed a formal protest to the Board against their inconsiderate action and very pertinently suggesting that they should appoint qualified ophthalmic surgeons in each school area to have general care of the eye-sight of the children, as is already done in Germany. At the same time the Council advises the hospitals to refuse to examine more than a certain limited number of such children per diem and to weed out all whose parents are not really entitled to hospital-service. What made the inrush of children more provoking was the fact that many of them were found to have perfectly normal vision and accommodation, so that the eye-tests must have been made under the influence of some craze for "physical measurements" by the teachers themselves.

A novel suggestion as to the physical side of education has just been made in Parliament. A member asked that, in view of the bad condition of the teeth of so many of the recruits who present themselves, the Council on Education shall appoint qualified dentists, who shall go to the schools at regular intervals, examine the teeth of

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all lads over ten years of age and advise them as to the best measure of preserving them. The Committee of Council, of course, simply promised in chill official accents to "consider" the suggestion. While it would be an admirable thing in every way, especially if extended to the girls as well, we doubt whether the most enthusiastic physical educationalist would approve of turning the schools into a manufactory for soldiers in quite such a barefaced fashion.

The plucky little Liverpool School of Tropical Medicine is to the fore again with another malaria expedition. This will proceed to the West Coast of Africa and go up the River Niger to Old Calabar for the special purpose of working out further problems in the dissemination of malaria by *Anopheles* and its prevention. It is expected to start about the end of March.

The new Government amendments to the Housing-Bill are condemned on all hands as mere "tinkering." Sanitarians and reformers of all shades of political and racial opinion unite in expressing their disappointment. Almost the only step in advance of any value is the granting of power to municipal bodies to purchase or lease land for building purposes outside of their own areas and thus relieve their internal congestion. A number of amendments will be presented in the House, especially with regard to holding the owners of slums and rookeries responsible, in part at least, for the condition of their property and for the expense of its destruction and clearance. As one reformer pertinently remarks: "We do not compensate the owners of bad meat or decaying fruit, why should we those of rotten houses?" At present rates the cost of clearance of slums is something enormous and an intolerable injustice to the community.

English medical journalism is becoming alarmingly progressive. The latest arrival in the London arena, the enterprising and interesting *Physician and Surgeon*, has already in its fourth number reached the point of formally discussing "Legitimate Advertising" by the profession and gives sage advice as to how the young practitioner may get the best results from his church affiliations, his political activities, and his interest in the various reform movements—nay, even favors the use of a carriage, however few patients he may have. He is even advised to call on the neighboring chemists and deal with as many tradesmen as his limited household expenditures will admit. Really, when your Englishman does get to thinking out loud, he is astonishingly frank! The *Physician and Surgeon* practises what it preaches, as it is for sale at all newsstands and announces its bill of contents every week upon a gaily-illustrated poster with huge headlines, upon the bill-boards at the railway-stations. The proper British profession is shocked—but it buys the journal.

A most interesting contribution to our knowledge of the causation of scurvy was made before the Royal Society this week in the papers of Mr. F. G. Jackson, the Arctic explorer, and Professor Vaughan Hurley, the well-known physiological chemist of University College. Both the papers were united in regarding the disease as due to ptomaines contained in badly preserved foodstuffs, rather than to deficiency of certain salts and elements in such foods, as the older view was. Mr. Jackson was able to report, as convincing proof of the correctness of the views of the writers, that, having planned the provisioning of his expedition upon the lines of the theory, not a single case of scurvy had occurred during their long stay in the Polar regions.

TRANSACTIONS OF FOREIGN SOCIETIES.

German.

PROGNOSIS OF GLYCOSURIA AND DIABETES—MARRIAGE OF DIABETIC PERSONS—NEPHRITIS IN CHILDREN WITHOUT ALBUMIN—THE GERM OF WHOOPING-COUGH—ENTEROPTOSIS.

HIRSCHFELD read a paper on the prognosis of glycosuria and diabetes at the Berlin Medical Society, January 31st, in which he claimed that in even severe forms of diabetes recovery is possible. Strict withholding of carbohydrates from the food is not desirable on account of the danger of coma. A patient should be allowed two or three ounces of carbohydrates daily, or even as much as six ounces when improvement is well established. If the disease has existed a long time, or if acetone appears in the urine, the prognosis is much less favorable. Other unfavorable symptoms are attacks of painful colic associated with dysentery. The general appearance of the patient is not a safe guide to a correct prognosis. Often an increase in weight is accompanied by an increase in the excretion of sugar.

G. KLEMPERER said that there is a commonly accepted rule that diabetes is very dangerous in youth and much less so in old age. It had been his experience to meet many exceptions to this rule. For example, sugar was first noticed in the urine of a girl aged thirteen years. There was an unusually marked hereditary taint in this case; nevertheless after excreting for several years urine containing from one to two per cent. of sugar, the patient entirely recovered. Such instances are doubtless merely exceptions to the general rule that diabetes is grave in youth. The commonly quoted assertion that the longer a diabetes exists the less dangerous it is, is denied by Klemperer. The opposite is rather to be affirmed, for the longer the glycosuria exists, the more imperfect will be the assimilation of carbohydrates.

SENATOR spoke of the duty of the physician to advise against the marriage of every diabetic patient; not because of a possible bad effect on the patient, but because of the probability that a tendency to diabetes will be transmitted to the offspring.

At the meeting of February 7th CASSEL discussed the subject of nephritis without albuminuria as occurring in young children, citing several instances in which the more or less abundant

urine was very pale, slightly acid, and of very low specific gravity. Although no albumin could be shown by any of the recognized tests, and neither were formed elements present, anasarca was marked. These and other symptoms led Cassel to the conclusion that there were cases of nephritis without albumin and casts, rather than cases of idiopathic anasarca. In two instances the children died and the microscopic examination of the kidneys showed parenchymatous changes to a greater or less degree.

ISRAEL mentioned cases of nephritis without albuminuria occurring in adults. In one striking instance in which the diagnosis was verified by a microscopical examination of the kidneys, up to the time of the patient's death repeated examination of his urine failed to show the presence of either casts or albumin.

ARNHEIM described his efforts to isolate the germ of whooping-cough, at the meeting of February 14th. In two years he examined, bacteriologically, thirty-three patients suffering from whooping-cough, and made three autopsies upon subjects dying from this disease. He found almost constantly little staff-like bacteria, which were exceptionally formed in the tissue cells. These bacilli appeared identical with those described by Schablewski-Hensel, but they differed somewhat in form and method of growth from the micro-organism which Ritter described some years previous.

At the Imperio-Royal Society of Physicians of Vienna, February 9th, C. HERZFELD spoke of enteroptosis, which he defined as an altered position of the abdominal organs, found usually in the female and occurring with great frequency. Its principal symptom is a disturbance of digestion. If the trouble comes from the stomach there will be loss of appetite, a constant feeling of hunger, pain on taking food, eructations, etc. If the intestinal digestion suffers there will be obstipation and diarrhea, gas formation, distention, and a feeling of fulness. Other symptoms of enteroptosis are pain, loss of muscular power, dyspnea, cardiac palpitation, headache, dizziness, and numerous nervous symptoms. Glenmore assumed that the starting-point of the trouble is usually a loosening of the support of the hepatic flexure of the colon. This allows the colon transversum and ascendens to sink, and they drag with them the other organs. This is not the case, for the chief force which keeps the various organs in place is the intra-abdominal pressure exerted from above by the thorax and weight of liver. This is met by the force of the intestines, which varies according to their contents, amount of gas, and so forth. An increase of pressure from above, as due to tight-lacing, or a reduction of the pressure from below. These changes lead to a displacement of the abdominal organs. In the large majority these follow pregnancy and childbirth, but they may follow equally well any sudden emptying of the abdomen, or diseases which reduce the tone of the muscles may bring about enteroptosis. The aim of treatment is to restore the normal pressure by means of bandages, which must exactly fit and should be put on while the patient is lying down.

If the floor of the pelvis is weak it should be strengthened by a perineal operation or by a pessory. As a prophylactic measure, close-fitting abdominal bandages should be worn.

SOCIETY PROCEEDINGS.

THE NEW YORK COUNTY MEDICAL SOCIETY.

Stated Meeting, Held Monday, February 26, 1900.

The President, George B. Fowler, M.D., in the Chair.

The subject of the evening was the discussion of the physiology and therapeutic uses of the suprarenal capsule.

Suprarenal Physiology.—Dr. B. Moore, Professor of Physiology in the Medical College of Yale University, discussed the physiological properties of the suprarenal capsules. He said: Our knowledge of the physiology of the suprarenal comes from three sources. First, from clinical medicine and the pathologic anatomy of these glands with the symptoms due to changes in them. This was the method that first brought the suprarenals into notice. Dr. Addison, in 1851, showed that their degeneration was associated with nervous and muscular asthenia and very greatly lowered blood-pressure. The second source was by the removal of these suprarenal glands from animals. Brown-Séquard, in 1855, showed that the removal of one of these glands from a guinea-pig was often fatal and the removal of both was always fatal. Later observers, however, have denied this. Schaefer suggested that in these cases of survival, accessory glands remained, and they are not rarely found at dissections, which make up for the organs that were removed. The third source of our knowledge of the physiological properties of suprarenal is the one that is now of special interest. It is due to injections of the gland and the observation of the results it brings about. The ingestion of suprarenal by the mouth causes no marked symptoms. Subcutaneously administered the results are neither very striking nor uniform. Intravenously the suprarenal extracts produce marvelous effects. A fraction of a milligram causes a rise of blood-pressure to double or treble what it was before. This is all the more striking as blood-pressure is usually very stable and is affected by very few drugs. The increase of blood-pressure arouses the vagus and this acts as a safety-valve in the prevention of overstimulation of the heart. As a consequence, when large doses are administered, the ventricle stops beating, just as if the vagus were directly stimulated, although the auricles continue beating. If atropine is used to paralyze the vagus before the administration of suprarenal then the heart stimulation is noted. It might be thought that suprarenal substance causes a rise in blood-

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pressure by action upon the vasomotor system and constriction of the small blood-vessels. It is, however, a stimulant to all muscle fiber. All the nerves leading to a part may be cut yet constriction will take place when suprarenal extract is administered. If a freshly excised vessel of a diameter of ten to twelve millimeters be acted upon by some fluid containing suprarenal substance, the diameter at once goes down to one or two millimeters. The vessel practically becomes obliterated. This action has been seen very well in the inflamed conjunctiva.

Suprarenal Chemistry.—Extract of suprarenal is not affected by acids. The active principle retains all its energy even in a solution of ten per cent. of mineral acid. Alkalies destroy it at once. At one time the active principle was thought to be a reduction derivative of pyridin acting like nicotine or conine, which are reduction derivatives of pyridin. These substances resemble suprarenal extract so much that it is surprising they have not been used more therapeutically. If suprarenal substance be heated with dilute acetic acid and then with zinc acetate the material obtained is most active. One-millionth of a gram to the kilogram weight of animal will produce an easily perceived effect. Curiously enough a much smaller dose produces an exactly opposite effect, that is to say, it lowers blood-pressure. This happens with a good many drugs, however, and might have been more or less expected.

The subject of the significance of the glands during life is still a matter of unsettled theory. Animals are usually killed by the shock of the removal of both glands. It is an extremely delicate operation, almost inevitably involving important abdominal nerve-plexuses and so readily leading to a fatal termination from surgical shock. Of late, attempts have been made by infection of the glands with various bacilli to produce gradual degeneration. One operator has had reported success in this way and the procedure was followed by the development of the symptoms of Addison's disease. As to the mode in which the suprarenal affects the system, there are two principal theories. Schaefer thinks that there is some substance secreted by the gland which keeps up muscular tonicity. Not only the muscular tonicity of the blood-vessel walls, but also that of the whole muscular system. The French school advances the theory that in the course of body metabolism certain substances are produced which lower muscular tone and that the secretion of the suprarenals neutralizes these substances. They urge the fact that the blood of animals from which the suprarenal glands have been removed is toxic for other animals. This argument, however, loses some of its weight when we recall that the injection of blood from any animal whose nutrition is very much lowered may seriously affect a healthy animal.

Preservation of Suprarenal Solutions.—Dr. Lucien Howe, Professor of Ophthalmology at the University of Buffalo, sent a paper on this subject, which was read by the Secretary. The method employed for over a year now in Buffalo with excellent satisfaction is as follows: One-half a gram of the extract of suprarenal capsule is rubbed to a paste, then water is added gradually until there is a solution of one ounce. This is then heated for some time to 160° F. Water being constantly added as the solution evaporates so as to keep the amount of liquid always up to one ounce. Fifteen grains of boric acid are then added and the solution is ready. It will keep for weeks. The suprarenal extract is used in the eye in the shape of small wafers. To make these the extract is rubbed up into a paste and then mucilage added to give it consistency. These feel somewhat rough but are unirritating when moistened. The addition of formalin, 1-10,000 or the employment of a concentrated extract in glycerin diluted as required are good methods for preserving the substance. But both the formalin and the glycerin have proved irritating to some eyes.

Suprarenal Therapy.—Dr. W. H. Bates then read a paper, which see p. 441.

Suprarenal Extract for Nose and Throat.—Dr. H. L. Swain, Professor of Otology and Laryngology in the Medical College of Yale University, said: The first use of suprarenal extract in disease of the nose is to open up an occluded nostril. It acts promptly on the muscular fibers of the erectile tissue of the nose and it is wonderful how soon after its application a completely shut up nostril is free for respiratory purposes. It does not affect infiltration and it has no effect where there is no muscular tissue. When administered in conjunction with cocaine it produces the greatest possible contraction. No unpleasant symptoms follow its administration and it should be used freely. No intoxication or constitutional symptoms such as occur with cocaine follow it, and no habit develops from its use. In acute rhinitis the suprarenal lessens the congestion and consequently the secretion. Unlike cocaine, the membranes do not become accustomed to it and it can be used any number of times. Owing to its effect on secretions from the nose, it would seem to be the ideal remedy for hay-fever. Others have found that even when employed internally it acted very favorably on the disease. Such has not been our experience at Yale. When applied locally, however, we have found it extremely beneficial. After the application, oil of eucalyptus may be inhaled several times a day and especially just after the application. The asthmatic attack which occurs so often in connection with hay-fever as the result of pressure within the nose is promptly relieved. In these cases nitroglycerin, used in conjunction, seems to be of advantage. As a hemostatic in surgery of the nose, suprarenal extract is an extremely useful drug. Every specialist knows how much time is lost after operations on the nose while waiting for the bleeding to stop. If a solution of suprarenal extract is applied before and

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after the application of the cocaine in these cases there is absolutely no bleeding. There are those who say that secondary hemorrhage occurs more frequently after the application of suprarenal extract for nasal operations than where it is not employed. Such has not been Dr. Swain's experience. The extract does not close up the varicose veins which sometimes exist upon the septum of the nose, but that seems to be because there is not enough tissue in the overstretched walls of the vessels to react to its influence.

Tonsillitis.—Suprarenal extract is an extremely useful remedy in tonsillitis. It gives great relief in all forms of the trouble. Patients speak of the immediate increase of space in their throats. Quinsy patients who have been suffering severe pain get some relief at once and are able to take the nutrition which they have had to deny themselves for days. When applied to the third and fourth tonsil it has a wonderful constringent effect which greatly relieves respiratory symptoms. The hypertrophied third tonsil can be removed bloodlessly under its influence. Acute edema of the glottis, especially in its early stages, is very favorably affected by the spray or by the local application of suprarenal extract.

Suprarenal Extract in Asthma.—Dr. S. Solis Cohen of Philadelphia said that asthma is not a nosological entity, but is associated with a great many different conditions due to very various causes. It is usually considered to be a paroxysmal disease without any gross, morbid pathology, although it may be associated with organic lesions of the most varied description and is especially prone to occur in renal and cardiac troubles. Simple asthma, without lesions or with but functional lesions, by which is meant pathologic alterations that have not as yet been detected even with the most refined methods, is due very probably to bronchial spasm. Occasionally it is due to spasm of the blood-vessels of the lungs, although in this case it is the pulmonary rather than the bronchial circulation that is affected. At times bronchial asthma is undoubtedly due to turgescence of the mucous membrane of the bronchi. It occurs, then, especially in highly neurotic individuals and is often associated with hay-fever. At times there is in these cases an alternating or continuous albuminuria. The extract of adrenals is not good for all cases of asthma, but will be found to benefit those patients who suffer from vasomotor disturbances, patients such as urticaria, fictitious urticaria, or dermography. Hay-fever patients who suffer from various neuroses who are very sensitive to changes in the weather and have capricious digestive disturbances or occasional cyclical albuminuria are especially benefited by the administration of the adrenal extract. It does not cut short paroxysms that have been once begun, but it mitigates their severity and lengthens the interval between them. The fear of the recurrence of paroxysms which haunts such patients and makes life so miserable is greatly lessened. The crucial test as to whether a patient is liable to be benefited is found in the fact that such are rendered worse by the inhalation of nitrite of amyl.

Suprarenal Extract in Hay-Fever.—Dr. H. Beaman Douglas said the discovery of the century is undoubtedly the use of suprarenal extract for this condition. In the perennial sneezing catarrh, with white, swollen turbinated bones, it is a most useful remedy. It will abort ordinary acute catarrh. Used internally it has a marked effect in lessening the symptoms of hay-fever and gives marked relief to the patient in twenty-four to forty-eight hours. Where five grains are given every hour distinct local effects are soon noticed. The nose is soon restored as a breathing organ, there are no dangerous sequelæ, no toxic symptoms to be feared and no liability to the formation of a dangerous habit. In certain patients some vertigo is noticed, the heart becomes a little more rapid than usual, and there is some nervous excitement, but nothing that need cause any worry. The only dangers of the remedy are theoretic and are not seen in practice. There is but one possible inconvenience that can be foreseen, and that is if the drug should be used constantly and persistently, the lessening of the blood-supply to the nasal tissues may lead to atrophy. The extract will abort asthmatic tendencies and will frequently arrest asthmatic attacks, although it will not affect asthma when the affection is fully developed; where, as is often the case, the asthma is due to congestion of the nasal passages, it will surely be benefited. Asthma on a gouty or rheumatic basis will also be benefited. When the asthmatic attacks are associated with an atheromatous condition, or are caused by interstitial nephritis, they will not be benefited. As a rule neurasthenic and neurotic patients in whom asthma develops are most helped. The extract may be applied on pledgets of cotton or by the spray every two hours until relief comes. The application or spray may be repeated whenever the symptoms return.

Suprarenal Extract in Laryngitis.—Dr. H. Holbrook Curtis said that in all forms of laryngitis suprarenal extract relieves the congestion, lessens the swelling and diminishes the pain. In addition to the spray a swab saturated with suprarenal solution should be used in the pyriform sinuses. In the laryngitis of singers, where the affection is not severe but yet is sufficient to prevent them from singing in public, an application of suprarenal extract in this way, five to ten minutes before a performance, will entirely restore them their voice and tone. The insufflation of the powdered extract gives the greatest relief to the dysphagia which is so prominent a feature of the disease. For relaxed vocal cords there is no remedy equal to the suprarenal extract. It acts not only to relieve any congestion in the neighborhood of the cords, but by a direct tonic action upon the muscles it tones the whole larynx. A marked feature of its use is that it is of equal service in congested as well as relaxed conditions.

Suprarenal Extract in the Urethra.—Dr. J. A. Moore has used suprarenal extract more than two hundred times in the urethra. He has found

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that instrumentation can be accomplished without any bleeding and with the production of very little irritation under its use. A ten-per-cent. unfiltered solution injected into the urethra completely relieves its irritability. When a stricture is to be stretched it lessens the congestion, increases the caliber of the urethra, and prevents all bleeding. As its effect passes off quickly, if more than two sounds are to be used at one sitting, a second injection of the suprarenal extract should be made. No danger is to be feared from constitutional symptoms or from the local action on the urethra of any amount of the drug. In six meatotomies, Dr. Moore has used a twelve-per-cent. solution injected hypodermically and has had very little bleeding after the operation. When slight bleeding occurred it was at once controlled by dropping some of the suprarenal solution on the bleeding vessels. In gonorrhea the injection of suprarenal extract in two cases gave complete relief from the smarting, burning pain of urination during the acute stage of the disease. For chronic gonorrheal patches in the deep urethra, it may be applied as a paste through the endoscope and gives good results. In gleet, suprarenal given every two hours is the best cure for the morning drop.

In the discussion Dr. Vansant of Philadelphia said that for the granular condition of the vault of the pharynx, which so often occurs with the wide nostrils of atrophic conditions in the nose, suprarenal extract gives excellent results. In hay-fever the internal administration of the drug does good, but its local use is more advantageous. Solutions of the suprarenal are very prone to decomposition. Great care should be taken, then, to avoid contamination and to prevent the development of septic material not only before but after its application. The suprarenal solution should not be used as a spray, but should be applied on cotton swabs in order to avoid all danger of affecting the accessory sinuses of the nose. Secondary hemorrhages after nasal operations need not be feared if another astringent, for example, a weak solution of a silver salt, is applied.

Dr. R. H. Cunningham said that he does not share the enthusiasm for the suprarenal capsule that seems to be felt by so many. He has seen at least one case where both glands were completely removed from a dog and after two years the dog is still alive, seemingly without any bad effects. He has seen a bucketful of the extract given to dogs by the stomach without any effect. Such diseases as hay-fever and asthma would be benefited by any animal extracts if the suggestion were given that a new and powerful remedy was being used which was sure to do them good. A word of warning seems necessary with regard to the use of solutions of suprarenal extract in the eye. The extract is prepared in large slaughter-houses where aseptic conditions are impossible, and during the process of desiccation virulent germs may easily retain their vitality. There is danger then of setting up severe septic conditions in so delicate an organ as the eye.

Dr. Myles said that the effect of suprarenal extract in the nose is almost marvelous. In ten to thirty seconds the blood is forced out of congested tissues in the nose and they are made almost white. Operations on the nose may be conducted practically bloodlessly, even in people who have almost the bleeder's diathesis. Serious operations that made the nose specialist hesitate before the introduction of suprarenal extract may be performed with the flow of scarcely enough blood to moisten the upper lip.

Dr. Phillips said that suprarenal extract is of wonderful assistance in intratympanic operations and in operations in the attic. In these cases the bleeding is usually free and greatly obscures the site of operation. If a few drops of suprarenal solution are instilled before the ether is given and then a pledget of cotton soaked in this solution inserted in the ear when the time for operation comes, the tissues will be properly prepared. The operation will be practically bloodless. The field of operation will remain unobscured by blood and there will be less danger of injuring the facial nerve.

Dr. Hopkins said that there was more danger of secondary hemorrhage after nasal operations when suprarenal extract is used than when it is not. Patients are often at home when the hemorrhage begins and it is very disquieting. It is well, then, always to pack with gauze containing a mild styptic before the patients leave the office. When suprarenal extract is used in conjunction with cocaine there is less prostration from the drug and less tendency to toxic symptoms, because the constriction of the blood-vessels by the suprarenal extract prevents the absorption of cocaine to any serious extent.

NEW YORK ACADEMY OF MEDICINE—SECTION ON SURGERY.

Stated Meeting, held Monday, February 12, 1900.

Charles N. Dowd, M.D., in the Chair.

Complicated Elbow Injury.—Dr. Forbes Hawkes presented a case in which there had been a dislocation of the elbow and fracture of the lower end of the humerus. The patient, a boy of twelve, came to the dispensary after the injury had healed in order to see if something could not be done for the resulting deformity. He was found to have excellent use of the joint, flexion and extension were almost as complete as in the normal joint. It was his left arm and he was right-handed; he had as much power in the arm for all movements as most right-handed boys. Roentgen radiograms seem to show that the fracture in the case was a chipping off of the whole outer condyle of the humerus with part of the inner condyle. A false joint had been formed at the fracture and it was this that gave the good result in the case. The normal joint seems to be anchylozed to a greater or less degree as the result of the healing of the

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injury which had taken place. The boy was advised not to have the arm operated on as it is doubtful if as good a result could be secured by any operative procedure. The callus thrown out after an operation might easily interfere with the function of the joint. The deformity which is the only objection to the present condition is, after all, not very marked nor will it attract much attention.

In discussion Dr. Dowd said that the wonderful good functional result in this case should be a lesson to all surgeons as to the amount of good that nature can do by simple conservative processes. Very seldom even after a great deal of interference, is as good a functional result obtained by the most carefully calculated methods. The case teaches how little we know in reality of the result of injuries at the elbow-joint.

Exostoses after Elbow-joint Injury.—Dr. Manley said that he does not think that we are quite justified in saying that there has been a fracture of the external condyle in this case. The olecranon seems to move on the proper articular surface. The projection felt at the back of the elbow might be new bone. It is well known how frequently new bone forms after injuries at the elbow-joints. The case serves to show the uselessness of the X-rays for absolute diagnosis in cases of complicated fracture or of dislocation and fracture. It is extremely easy to mistake the indications that are observed on an X-ray plate. To attempt to use radiograms as evidence in medico-legal cases is absolutely unwarranted. No better proof of this can be found than in the present case in which despite the carefully prepared Roentgen pictures, or best evidence can only be obtained from the old methods of palpation and manipulation. The younger generation of surgeons should realize that the old methods of diagnosis from the physical signs in such cases must be as carefully practised as before the introduction of the X-rays if they are to have any assurance of the value of their diagnosis.

Dr. Forbes Hawkes in closing the discussion said that he quite agrees with Dr. Manley as to the inutility in many cases of the X-rays in making an absolute diagnosis of complicated fractures. Within a few weeks he has had a classical Colles' fracture with all the typical symptoms, deformity, disability and crepitus. After reduction carefully prepared X-ray plates failed to show any sign of the lesion. In the present case, however, the physical signs seem to confirm the X-ray pictures as to the existence of a fracture of the lower end of the humerus in the original injury and the existence there now of a false joint which is responsible for most of the function which is present at the elbow. The combination of the two methods of diagnosis seems to justify the conclusion that this pseudo-arthrosis may often be of very great service in these cases.

Sarcoma of Testicle.—Dr. Pfister presented a very large tumor of the testicle which had been removed some six weeks ago from a young man aged twenty-two years. The tumor proved to be a sarcoma of the testicle and had reached its present size, some eight inches in length and five inches in transverse diameter, after only seven months of growth. The patient made an excellent recovery from the operation. Of course, the question of the possibility of the recurrence of the tumor cannot be definitely set aside as yet. Although the removal was very complete the prognosis is only reasonably good as these tumors are very prone to recur. The case is interesting also because the testicle on the right has never descended, and no trace of it can be found at any place in the genital canal. Usually in these cases it is the undescended testicle which undergoes malignant degeneration. The malignancy has usually been attributed to the constant irritation to which the organ is liable in its abnormal position.

In discussion Dr. Walker said that investigation of the literature of this subject of sarcoma of the testicle shows that the tendency of undescended testicles to undergo malignant degeneration is very marked. So marked, in fact, as to indicate an operation for bringing down an undescended testicle.

Acute Intestinal Obstruction.—Dr. Parker Syms said that this is always a fatal condition unless relieved. It is also a mechanical condition and requires mechanical treatment. The diagnosis is easy, if the symptoms are considered. Once the diagnosis has been made the question of treatment has to be seriously and promptly considered. The condition demands relief as soon as possible, spontaneous recovery may take place by a miracle through the formation of an artificial anus, or intestinal anastomosis, but these occurrences are extremely rare and should not enter into our routine consideration of the affection at all. No cathartic should be given. It adds to the danger. Short of surgical procedure, the only treatment justifiable is the giving of high injections. Even these must not be allowed to delay recourse to surgical procedure. The indication is for laparotomy, as soon as possible after the diagnosis has been confirmed and the inutility of injections demonstrated. Just as soon as the general practitioner realizes this state of affairs the mortality from acute intestinal obstruction will become much less than it is. Opium should not be given. It serves only to mask the symptoms and cause the operation to be delayed unwarrantably.

Technic.—When the vomiting is persistent and projectile in character, general anesthesia has too many dangers. Persistent vomiting can often be relieved by washing out the stomach. While opium should not be used in the early stages of the affection, it should be given as soon as operation has been definitely decided upon. It not only helps the action of the local anesthetic, but is the best stimulant that we have for shock.

Microbe Virulence in Intestinal Obstruction.—Dr. A. A. Berg called attention to the fact that during the time the intestinal contents are retained above the point of obstruction, the intestinal micro-organisms were apt to be rendered in-

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tensely virulent. It is well known how intensely emaciated patients may become after only a day or two of suffering from the affection. This was formerly attributed to the shock persistently present, but seems really to be due to the intensified pathogeneity of the microbes in the intestine. The statistics after the operation for intestinal obstruction are bad, mainly because of this virulence. It does not seem advisable then to close up the intestine at once after the obstruction has been removed or even to make a direct end-to-end anastomosis. It is better and more conservative surgery to make a temporary artificial anus and wash out the proximal and distal end of the intestine very carefully. After a day or two when the patient has reacted and the microbic virulence has been lessened, the resection of the intestine may be undertaken. An important thing for the shock in these cases is the infusion of salt solution into the circulation. This should be done, not in large amounts at long intervals, but in small quantities every hour or so. When given in this way the effect is much better and the tonic action more continuous.

Differential Diagnosis.—Dr. Manley said that not only is acute intestinal obstruction very rare, but it seldom lasts more than twenty-four hours. The case is a surgical one from the beginning. It is extremely difficult to differentiate between perforation of the intestines and acute intestinal obstruction. Practically, the only sure differential sign between the two conditions is that in perforation the liver dulness disappears owing to the presence of gas in the peritoneal cavity. Enemata should be given very carefully, not in large amounts and never under much pressure. The intestine is often diseased and may easily give way with a fatal issue. In a recent case Dr. Manley found that a practitioner who had injected a gallon of soapsuds had caused a perforation of the intestines, and on laparotomy the abdominal cavity was found full of soapsuds, sweet oil and excrementitious material.

Dr. Boldt said that there is often considerable difficulty in recognizing when operation must be done. In a recent case, that of a child of twelve, he operated some months ago for perforative appendicitis in which there had been considerable inflammatory reaction in the formation of a good many intestinal lesions. Despite the great care in preventing the reformation of the adhesions, the child became ill some months later with symptoms of intestinal obstruction. The vomiting became persistent and on the second day fecal in character. Notwithstanding this the general condition remained reasonably good. Under the use of enemata the child recovered somewhat. The vomiting grew less, the temperature came down, and the pulse became normal. There was no tympanites. After a day or two the vomiting returned, tympanites developed and considerable tenderness was found. On laparotomy the obstruction was found to be due to a band of adhesion; extensive peritonitis was present. Despite the most careful manipulation the serosa was torn. Eight inches of bowel were resected and an end-to-end anostomosis with a Murphy button made. He then tried to push some of the feces from above the obstruction onward through the button, but found he could not do so. Another anostomosis was then made, but without resection. The patient made a good recovery. At least the child is well now, six days after the operation. As to keeping the bowels quiet after an anastomosis operation for acute obstruction, Dr. Boldt does not believe it advisable. It gives too much chance for the absorption of toxic materials, and the stasis of substances within the gut is liable to decrease intestinal vitality. The ordinary anastomosis is sufficiently strong to stand peristalsis and the movement of material through the intestine and such movement should be carefully provided for as soon after operation as possible.

Dr. Willy Meyer said that it is his custom to press out the excrementitious material from the proximal end of the intestine. There is always an accumulation of material, usually in an intensely fermenting condition, just above the point of obstruction and this should be gotten rid of as soon as possible after the opening in the intestine is made. The intestine should be placed on a set of warm sterile towels for this purpose in order to avoid any infection of the peritoneal cavity.

The Hockey-Stick Incision.—Dr. Willy Meyer described this form of incision which is meant to enable the operator to reach any complications that he may find in cases of appendicitis. The incision is made from midway between McBurney's point and the anterior superior spine of the ilium down to where the femoral artery can be felt pulsating beneath Poupart's ligament. Into this incision the finger is introduced and carried directly across to where the epigastric artery can be felt pulsating. The incision is then carried with a rounded angle at its lower part straight across with the finger in the wound as a guide. This gives it the form of a hockey-stick and enables the operator to reach any complications that may exist in the small pelvis. It serves its purpose very well in all cases, except in very fat patients. In women, particularly, the lower part of the incision gives very good access to the small pelvis if there should be complications in the uterus or its adnexa. In males it is very useful for the drainage of the small pelvis. Dr. Meyer has used the incision in ten cases now and feels that he can recommend it with confidence.

Posterior Rectus Sheath Incision.—Dr. Joseph Wiener, Jr., said that the most available incision for complicated cases is the cutaneous incision alongside the rectus muscle with the incision of the posterior sheath of that muscle. This may be enlarged up and down to any extent required in order to treat complications.

In closing the discussion Dr. Willy Meyer said that a long incision at the side of the rectus muscle divides the nerve supply of the muscle which is so important for the nutrition of the structure in after-life. We have come to realize of late years how much depends upon trophic nerve in-

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fluences for the tonicity of muscle and its proper nutrition and function. The hockey-stick incision has not this disadvantage of severing the nerve supply of important muscles and it may be made longer or shorter to suit the circumstances of the case.

Twisted Omentum as Tumor.—Dr. Peck presented the specimen of a tumor which had filled the whole right side of the abdomen from above the umbilicus to the small pelvis. It was found to be composed of the whole of the omentum twisted on itself into a tight roll by the motion of the intestines. It was free except for some recent adhesions, which could be separated easily, and some very firm adhesions in the pelvis. These firm adhesions had evidently existed for a long time and were the true cause of the twist. With both ends of the omentum anchored fast the peristaltic movement in the intestines had rolled the omentum upon itself, as could be seen in the specimen. The symptoms of the case were rather sudden in the onset and resemble somewhat those of strangulated hernia. They were evidently due to the fact that the twist in the omentum had finally become tight enough to shut off the blood supply.

NEW YORK NEUROLOGICAL SOCIETY.

Stated Meeting, Held Tuesday, February 6, 1900.

The President, Frederick Peterson, M.D., in the Chair.

Tendon Transplantation in Infantile Cerebral Palsy.—Dr. B. Sachs presented a boy fourteen years of age, one of the original cases of infantile cerebral palsy reported some years ago by Dr. Peterson and himself. He had had a typical cerebral hemiplegia, due to difficulties at birth. The boy called at the clinic because of contracture of the arm. A transplantation of tendons was done by Dr. W. R. Townsend, with a very gratifying result. These cases seem to him to hold out even a better prospect of recovery than the ordinary infantile spinal cases, because in spite of the contractures much more power is left in the various groups of muscles.

Dr. W. R. Townsend exhibited two photographs showing what was the position of the hands and the limbs of extension and flexion of the fingers and wrists at the time the boy first came under his observation. The method selected was to transplant the extensor tendons on to the flexor tendons. The electrical reaction of the flexors was diminished. The anterior pair of the four muscles reacted slightly. On December 21st, under ether anesthesia, an incision was made in the middle of the flexor surface of the arm over the wrist; then the flexor carpi radialis and flexor carpi ulnaris were divided above the wrist and held temporarily by silk sutures. The next step was to make an incision on the dorsum of the wrist and expose the extensor communis digitorum one inch and a half above the wrist. A dissection was then made between the bones so as to connect with the tendons previously cut. The extensor communis digitorum was folded back, as it was too long, and transplantation to the attachments of the flexor carpi ulnaris, radialis and palmaris longus was then made. All the dressings were removed at the end of six weeks, since which time the arm was carried in a sling. The arm is now held in a posistion midway between flexion and extension, and there is a fair grasp, although there was none before the operation. Before the transplantation the hand was helpless and useless. If proper exercises are used the boy will be almost sure to have a useful hand, and will be able at least to use a pen.

Dr. Leonard Weber presented a case for diagnosis as to the mental condition of a man thirty-five years of age, a clerk by occupation. The family history shows a marked tendency to mental disorder. In the spring of 1895 he began to be troubled with slight vertigo, drowsiness, headache and occasional fainting spells. He became somewhat erratic in his habits, and on August 10th developed an attack of acute mania. In November the speaker first saw him while still confined in a private asylum. In December he was transferred to the Bloomingdale Asylum, and in the following May was discharged, the physicians there looking on the case as one of acute mania that recovered. Some months later the man exhibited symptoms of malarial infection and responded fairly well to quinine. He was then put tentatively on mixed treatment, but with negative results. Early in December, 1896, he had a slight serous pleurisy. Some time afterward Dr. Weber located a subphrenic abscess, and, on incision, over one pint of pus was evacuated. The man's recovery was uneventful, and on January 1, 1897, he resumed active work, and has continued at his occupation ever since that time. The patellar reflexes are diminished, and sexual power is lost. The case is presented with the idea of determining the cause of the mania—whether it resulted from an infection.

Amyotrophic Lateral Sclerosis.—Dr. E. D. Fisher reported the case of a woman, forty-nine years of age, who gives a history of mental disorder in her immediate family. The patient presents no evidence of syphilitic infection. She was very ill in each of her two pregnancies, and after the last confinement, which occurred sixteen years ago, she suffered from neuralgia of the leg. In December, 1898, she noticed some difficulty in talking, and ten months later speech failed entirely. About this time she first noticed some difficulty in passing the bolus of food into the back part of the mouth. On December 20th she came under observation. At that time there was inability to speak or swallow, and the jaw was rigid. The tongue was small and short, and rather rigid. Examination showed the same rigidity throughout the muscular system. The first diagnosis was bulbar paralysis. The tone of the voice is now entirely nasal; the tongue small, and the muscles of the neck and jaw so rigid that the

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mouth can only be opened slightly. There is an increase of the reflexes. Swallowing is difficult. The rigidity of the tongue and the increase of the reflexes are the special features of the case.

Dr. C. L. Dana suggested that the case is one of amyotrophic lateral sclerosis.

Dr. Joseph Collins concurred in this diagnosis, and said that he reported an exactly similar case in 1892, the spastic condition of the neck and face having been the most pronounced and the initial symptom. From this he inferred that the primary neurons decay before the motor neurons.

Dr. Fisher said that he would accept the diagnosis suggested by the last two speakers.

Diplegia Brachialis Traumatica.—Dr. Pearce Bailey presented a man, fifty-four years of age, who was knocked down and injured by a carriage last December. Two ribs were fractured, and both upper extremities became paralyzed. He was treated for a short time at Roosevelt Hospital. On coming under observation, in January, 1900, examination showed the movements of the neck to be free and painless. The muscles about the shoulders were paralyzed and atrophied, and responded sluggishly to faradism. He complained chiefly of severe pains running down from the shoulders into the arms. There was no paralysis of the legs or the bladder and no anesthesia. The diagnosis was diplegia brachialis traumatica. Kocher maintains that this condition is the result of an extradural hemorrhage, basing his opinion apparently on the existence of the darting pain down the arm. Dr. Bailey thinks there might be compression of the nerve-roots, or hemorrhage into the cord itself. He does not think an extramedullary hemorrhage will cause such symptoms as existed in this case, and, moreover, such a lesion occurring as an isolated one is practically unknown.

Dr. Max G. Schlapp thought if the lesion be due to hemorrhage into the cord there would be more marked sensory disturbance.

Dr. Collins thought the chances are enormously in favor of this condition being hematomyelia. It does not seem to him at all probable that the rapid atrophy of the muscles could result from an extramedullary lesion; it is rather a true atrophic condition dependent on the destruction of some of the motor cells at their origin.

Dr. E. D. Fisher thought that there is not a destructive lesion in the anterior horn, but slight capillary hemorrhages.

Dr. Schlapp thought the hemorrhage must be on both sides in the anterior horns, and if they were so large as to cause such atrophy they must also affect the anterior commissure and the gray matter of the anterior horns.

Dr. Mary Putnam Jacobi did not see why there should be any more marked sensory symptoms here than in an anterior poliomyelitis.

Dr. Percy Bolton said that he had seen quite a number of cases, the great majority having been apparently due to lesions into the spinal cord. Last year, however, he saw one case in which the symptoms pointed to injury of the nerve-roots in the foramina. This patient fell on his head, and entered the hospital with tingling sensations in the distribution of the ulnar nerve. On flexing the head on the trunk the tingling sensations in the arms could be developed, and this led to the supposition that the nerve-roots were involved.

Paralysis of Serratus Magnus-Gliosis.—Dr. William Hirsch presented a man who came under his observation about two weeks ago. The patient said that for two years past he suffered from what he called "an itch on the abdomen." Examination revealed the fact that in spite of the itching complained of there were no scratch-marks visible. There is an area of disturbed sensation on the abdomen. Its upper border is formed by a horizontal line passing through the ensiform cartilage, and the lower border is formed by a horizontal line about six inches lower down. The lateral boundaries are the axillary lines. Further inquiry shows that there is no true pruritus, but a paresthesia. This area is extremely sensitive to heat and cold. Closer examination shows bilateral paralysis of the serratus magnus, as indicated by the wing-like projection of the scapulæ when the arms are held forward and horizontally. There is atrophy of the trapezius and of the latissimus dorsi. The patellar reflexes are normal. These muscular affections must have developed quite rapidly, as the man was examined not long ago by a thoroughly competent physician in a hospital. He assumes that there is here a lesion in the posterior horns in the eighth or ninth dorsal segments, probably a neoplasm, a gliosis. This gliosis by occlusion of blood vessels and the consequent increased blood pressure might have caused the formation of a cavity. Another theory is that the primary gliosis has been too slight to cause any symptoms, but that by proliferation the effect observed has been produced.

Dr. R. G. Wiener said that this patient was sent to him about a week ago for diagnosis. The man is a glazier by occupation, and anyone who is accustomed to work with the hands above the head is likely to suffer from paralysis of the serratus magnus. Careful examination of the affected area, when the patient's attention was distracted, led him to look upon the paresthesia as purely hysterical. The muscular paralysis seems to him entirely peripheral.

Dr. Hirsch expressed great surprise at this diagnosis. There is only one case in literature of peripheral bilateral paralysis of the serratus magnus. Moreover, there are no sensory disturbances in the upper region. He could not reconcile the diagnosis of hysteria with the known pathology of the case presenting such symptoms. The affection of the other muscles made such a diagnosis in his opinion utterly impossible. The comparatively long duration of the case certainly does not exclude a gliosis.

Ophthalmoplegic Migraine.—Dr. B. Onuf presented a young girl who for the past five years has suffered from attacks of pain in the right

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upper eyelid, associated with nausea and vomiting. Soon after the beginning of the attack the eyelid began to droop, and in the course of three days the eyelid was closed and the eye appeared to be fixed. After remaining closed for about three days, the eyelid opened again and the pain disappeared. Lately these attacks were less frequent, there being only about three in one year. Examination shows paresis of all the muscles supplied by the third and fourth nerves, but the rectus internus acts well. The attacks are preceded by constipation and chilliness. The case is looked upon as one of ophthalmoplegic migraine.

Dr. W. M. Leszynsky said that he would rather call the case one of recurring ocular palsy. He had seen one case in which there were two attacks in one year. She ultimately recovered completely.

Dr. Onuf replied that vomiting, periodic pain, and the associated tachycardia seemed to him to stamp the case as one of migraine in addition to the ocular palsy.

Paresthetic Meralgia.—Dr. P. Meirowitz presented two men. The first was forty-eight years of age, and first came to him on January 23d, complaining of a gnawing sensation on the outer aspect of the thigh. There were also alternating sensations of heat and cold. Examination shows no objective changes in the appearance of the skin. Over the area, beginning three inches above the external condyle, and extending upward for some distance there is anesthesia to touch, and immediately surrounding this is a region of tactile hyperesthesia. In portions of the affected region the strongest faradic current does not cause the slightest inconvenience.

The second patient was forty-seven years of age, and was first seen on January 6th, when he complained of a burning sensation on the outer side of the left thigh. The trouble came on suddenly eight or ten days previously, and was at first on the anterior aspect of the thigh. Occasionally the sensation is that of hot water boiling under the skin. Just above the knee is an area of anesthesia to cold. The affected area feels cooler to the touch.

Dr. C. L. Dana said that it has been very properly stated by Dr. Meirowitz that these cases are not at all rare. He has seen a similar condition affecting the calves of the legs on both sides. Probably paresthetic meralgia can be found in the distribution of most of the nerves.

Intracranial Tumor.—Dr. Graeme H. Hammond reported a case of this kind. The only lesion discovered at autopsy was an epithelioma growing from the sella Turcica. It measures 7½ by 2 by 1½ mm. The median line of the tumor corresponds very closely with the median line of the skull. It compressed both optic nerves, the optic chiasm, part of both optic tracts and the third, fourth, fifth, and sixth nerves on both sides, both crura, the hypophysis and the inner surface of both temporal lobes. Microscopical examination had not yet been made. In October, 1897, this woman, thirty-four years of age, presented herself, and a diagnosis of encephalic tumor was made. She had a good personal history. About fifteen years ago she had a fall on the back of the head, but this was not followed by any evidence of injury. Some years before coming under observation she began to suffer from a tic in the face, which was relieved by extraction of several carious teeth. Shortly after this the articulation became imperfect for a time, and soon innervation became impaired. In August, 1897, she suffered every morning from intense pain in the top of the head, and later on vomiting was quite troublesome. In October, 1897, examination showed the pupils to be regular and dilated, and responsive to accommodation. The eyeballs moved normally, but showed slight nystagmoid movements. She could not read fine print. Sensibility was normal. The ophthalmoscope revealed optic neuritis. During the next year the same symptoms were present, but to these severe headache, vertigo and a staggering gait were added. In September, 1899, weakness was noticed in the left arm and leg, and after a time a well-marked hemiplegia developed. In January the limbs were rigid, and the reflexes exaggerated. Sensibility was normal in all parts of the body, and smell, hearing, and taste were normal. There was a well-marked double optic neuritis. The tumor was thought to be situated in the motor fibers of the right hemisphere. At the husband's request an operation was performed, although no hope of a successful result was entertained. The tumor was not found, and the patient never rallied from the operation. The remarkable feature is that such a large tumor, pressing on so many cranial nerves, should not give rise to symptoms which would make the location diagnosis reasonably certain. A search through the literature shows the reports of several cases in which tumors similarly situated gave rise to no focal symptoms.

Dr. Sachs said that he has had under observation for the past two years a case giving very much the same symptoms, and he was impressed with the paucity of the usual symptoms of tumor of the brain. The only symptom added of late was double anosmia.

Myelitis, Especially Tuberculous.—Dr. Joseph Collins read a paper with this title. He said that acute myelitis is relatively uncommon. The case reported is that of a woman, twenty years of age, who was admitted to the City Hospital in 1898. Her illness began about three months before its fatal termination, the first thing noticed being a redness and painful swelling of the second metacarpophalangeal articulation. The question arises whether these symptoms are really due to rheumatism or to vasomotor changes. A few days later the right elbow became painful and swollen, and in a few days more the other elbow, one ankle and one knee were successively involved. According to the history she had been treated in Bellevue Hospital for rheumatism. On reaching the City Hospital she had a number of large bed-sores of long-standing. She was pregnant at

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the time, and was soon after delivered of a child, which is now living. It was noted shortly afterward that the limbs were absolutely fixed, that there was urinary incontinence, but no sensory disturbances. The cranial nerves were not affected. About two weeks before death there were rigors and elevations of temperature, indicative of septicemia. The autopsy was made twelve hours after death. The spinal canal contained pus up to the second lumbar vertebræ, and from this point upward was a layer of greenish exudate, which reached up to the brain and forward to the optic chiasm. The cord was very much softened between the sixth and ninth segments. The lungs were free from tuberculosis. Microscopical examination of the spinal cord shows the changes to be most marked in the eighth and ninth segments, and least marked in the cervical cord. From one end of the cord to the other the dura is the seat of productive inflammation, and this is true, to a lesser extent, of the pia. The sections made from the eighth dorsal segment show the central area of necrotic tissue limited in front by the commissure. One of the sections from this segment shows a few tubercle bacilli. No bacilli are found in the meningeal exudate. The changes in the ganglion cells are those of advanced diffused chromatolysis. In many of the cells there is a complete disappearance of the achromatic granules. The cells most affected at these levels are those of the internal groups of the anterior horns. Sections from the first lumbar segment show the thickening of the meninges and the inflammatory exudate, and also congestion of the blood-vessels of the anterior horns. The changes in the chromatic granules and the achromatic substances are apparently secondary to the extensive changes in the blood-vessels, and not dependent on rheumatism or tuberculosis. Sections from the various lumbar segments stained by Nissl's method, show variable disintegration and degeneration of the cells of the anterior horns. The processes of the cells show a degeneration similar to that of the bodies. The so-called dislocation of the nucleus of the cell does not seem to indicate to any extent the pathological state to which the cell had been reduced. The changes in the cells of the cervical cord were similar to those in the lumbar region, although less pronounced. Many of the cells are large and stained deeply, while the achromatic substance in the cells is in good condition. The enormous thickening of the pia at this level is well shown in sections stained with hemotoxylin. The cells of the anterior horns show slight disintegration of the chromatic substance only. As the dorsal region is approached the cells of the anterior horns show more marked degeneration changes. Here the remarkable feature is the relative preservation of the cells of Clark's column. In conclusion, the speaker said that he did not believe that the pain in the extremities was the result of rheumatism, but of tuberculosis.

Dr. Schlapp said that the first drawing exhibited shows a very large lesion, which seemed to him difficult to explain by the clinical history, particularly in view of the fact that there were no sensory symptoms. He would like, therefore, to know whether it is not possible that this large lesion might be the result of post-mortem change.

Dr. W. H. Leszynsky suggested that it is possible that the large bed-sore over the sacrum might have had something to do with the septic process and the meningitis.

Dr. Collins replied that he commented, in his paper, upon the point raised by Dr. Schlapp, and had stated that, in all probability, this necrotic area was increased perhaps one-third by an artefact.

REVIEWS.

The Refraction of the Eye. Including a Complete Treatise on Ophthalmometry, a Clinical Text-book for Students and Practitioners. By A. EDWARD DAVIS, A.M., M.D., Adjunct Professor of Diseases of the Eye in the New York Post-Graduate Medical School and Hospital, Assistant Surgeon to the Manhattan Eye and Ear Hospital, etc. Illustrated. New York: The Macmillan Company, 1900.

IN spite of a somewhat misleading title, which would indicate a work on the optical principles underlying normal vision and on the methods of determining and correcting ametropia in its various forms, the manual under consideration will be of practical value to those students and practitioners who wish to familiarize themselves with the use of the ophthalmometer and to understand the theory of its construction. To this extent the book can be recommended, although even in the chapters on ophthalmometry, which form the greater part of the volume, exception might be taken to some explanations. Thus the author's analysis of the correction of ophthalmometric readings and his rules for determining approximately the amount of total astigmatism do not appear to be as exact or as rational as those recently formulated by Javal. The diagrams which accompany the considerations on astigmatism make the entire subject quite intelligible, and form a valuable graphic aid in instruction. As far as the subject of refraction is concerned it must be admitted that Dr. Davis's work is somewhat inadequate. The ophthalmoscopic and retinoscopic methods of determining ametropia are but briefly mentioned, while the trial-case and the ophthalmometer occupy positions of undue importance. The author's opinion that cycloplegics are almost always unnecessary, and his statement that he does not use a mydriatic in more than one per cent. of all cases of refraction will, doubtless, bring tidings of great joy to the "opticist" and "refractionist," however cold their reception by members of the medical profession, who are informed that even spasm of accommodation is not considered an indication for the use of homatropin or of some other cycloplegic. The style of this treatise is rather

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careless. Such expressions abound as "many times" for "generally," "Waœlaston" prisms, "cross" cylinders, "oval" for "elliptical," "if" for "whether," "fitting the patient to glasses," "a prolonged time," "to add an increase;" while loose construction, repetition, and a pleonastic use of "that" are noticeable. Aside from these blemishes Dr. Davis's work may be considered a good guide to ophthalmometry. It should not be entitled a text-book on the refraction of the eye.

An American Text-Book of Surgery. For Practitioners and Students. By PHINEAS S. CONNER, M.D., FREDERIC S. DENNIS, M.D., WILLIAM W. KEEN, M.D., CHARLES B. NANCREDE, M.D., ROSWELL PARK, M.D., LEWIS S. PILCHER, M.D., NICHOLAS SENN, M.D., FRANCIS J. SHEPHERD, M.D., LEWIS A. STIMSON, M.D., J. COLLINS WARREN, M.D., and J. WILLIAM WHITE, M.D. Edited by W. W. KEEN, M.D., LL.D., and J. W. WHITE, M.D., Ph.D. Third edition, thoroughly revised. Philadelphia: W. B. Saunders, 925 Walnut street, 1899.

THE appearance of a new edition of this admirable work is to be regarded with unqualified pleasure by all those engaged in or about to commence the study of surgery, for its position is unique in the pedagogical literature of the subject. Probably no other book of the class in the English language is quite so well adapted to the needs of the student, and when the rapid advances of surgical science during the past few years had somewhat outstripped the older issue, in spite of the ever increasing multiplicity of new books offered, the thoughtful instructor was rather at a loss as to what to recommend to his pupils as a substitute. Now that it has been submitted to the pruning and amplification that the swiftness of medical progress demands it may confidently be commended as being fully representative of the science and art of surgery as it is practised by the most advanced operators of today.

In addition to a chapter on the use of the Röntgen rays in diagnosis, among the new topics introduced are a full consideration of serum-therapy, leucocytosis, post-operative insanity, the use of dry heat at high temperatures, Krönlein's method for locating the cerebral fissures; Lorenz's and Hoffa's operations for congenital dislocation of the hip, lumbar puncture, the forcible reposition of the spine in Pott's disease, the treatment of exophthalmic goiter, gastrectomy, several new methods of operating on the intestines, the use of Kelly's rectal specula, the surgery of the ureter, Schleich's infiltration method, the newer methods of disinfecting the hands, the use of gloves, etc.

The sections on appendicitis, on fractures and on gynecological operations have been revised and enlarged and a considerable number of new illustrations added throughout the book.

In spite of the fact of its being a compilation the work is remarkable for its homogeneity and compactness; so skilfully has the work of collating and revising been done that there is a conspicuous absence of the feeling of abrupt transition and imperfect annotation that so often mars the result in similar volumes, when the writings of many authors have been simply juxtaposed and bound between the same pair of covers without the exercise of that rigid sense of the fitness of things which is the whole art of editing.

Borrowing the sacred formula of the ancient prescriber it might be said that the work is to be warmly commended to all those who would acquire their learning *cito, tuto et jucunde;* quickly because the text is concise and well arranged, safely for it represents the teaching of the masters of the science, and pleasantly for the style throughout is agreeable, the illustrations excellent, and the print and paper above reproach.

A Practical Treatise on Materia Medica and Therapeutics. By ROBERTS BARTHOLOW, M.A., M.D., LL.D., Professor Emeritus of Materia Medica, General Therapeutics and Hygiene, in the Jefferson Medical College of Philadelphia; Honorary Fellow of the Royal Medical Society of Edinburgh, etc. Tenth edition, revised and enlarged. New York: D. Appleton and Company, 1899. Pp. xxii-866.

To reach the tenth edition, a text-book must possess inherent merit and any irrelevant matter must have been eliminated from its pages. And when the author of a work on therapeutics himself has a thorough faith in the power of drugs, he is bound to impress his readers with a desire for extensive knowledge of therapeutic resources. Bartholow believes in drugs and concentrates his energies on finding for them a practical use in medicine. He seldom speaks disparagingly of a drug, and often contents himself with merely stating the uses to which the remedy has been put, without attempting a discussion of its relative merits and demerits. The present edition is of the same size and arrangement as its predecessors, with the addition of a short chapter on prescription-writing and the metric system. The latter system the author commends, yet does not use it in stating the doses of drugs. The list of newer synthetic remedies has had some additions, and the work generally has been brought up to date. Three pages are devoted to antipyrine, but half a page to phenacetine; a whole page is all too little for saccharin, and a short paragraph must suffice for beta-naphtol. For the latter substance no internal use is assigned, and its derivative, benzo-naphtol and beta-naphtol bismuth, are not mentioned. The topical application of guaiacol in tubercular peritonitis, hydrocele, epididymitis and orchitis is not spoken of, and among the compounds, guaiacol carbonate and valerianate are omitted. Although a derivative of narcotine, cotarnine hydrochloride, used to arrest hemorrhage, seems out of place among the opium preparations, and methylene blue is sadly confused with methyl blue, or blue pyoktanin. The articles on urethane and paraldehyde are very commendable, the frequent failure of the former drug being attributed to insufficient dosage. Ich-

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thyol is well treated, especially as regards its recently developed use in internal medicine. The newer silver antiseptics and iodoform substitutes are discussed at some length, and nitroglycerin is hailed as a "sine quâ non" in the treatment of anemia. The strengths of the pharmaceutical preparations are not stated, the reader being left to arbitrary doses to determine the relation of one preparation of a drug to another, or of either to the drug itself. No reason is given why the maximum dose of the fluid extract of digitalis should be three minims, while the 15 per cent. tincture of the same drug may be given in dose of one dram. The range of dose of fluid extract of ipecac is from two minims to one dram, while that of the 10 per cent. wine of ipecac is one minim to one dram. The book is essentially a work on therapeutics, the materia medica part of it being apparently added for the sake of completeness. And in spite of a few errors that have crept in, we can recommend it to the student or practitioner as a valuable work on the means of curing disease. Its arrangement is pleasing, its descriptions are interesting and clear, and it covers the subject in a very satisfactory manner.

Treatise on Orthopedic Surgery. By DR. E. H. BRADFORD and DR. R. W. LOVETT. Second revised edition. 8vo., 655 pages. Illustrated. New York: Wm. Wood & Co.

IN this second edition the more notable additions are as follows: Calot's operation for the correction of the deformity of Pott's disease; forcible correction in the treatment of scoliosis; coxa vera and fracture of the neck of the femur in childhood; the modern treatment of congenital dislocation of the hip; tendon-grafting for the relief of paralytic distortions; and an extended account of the prevention and treatment of the acquired disabilities of the foot. The illustrations have been carefully selected, those showing the various pathological processes being especially commendable. The new edition fully sustains the reputation of its predecessor as the standard work on this subject.

BOOKS RECEIVED.

The MEDICAL NEWS *acknowledges the receipt of the following new publications. Reviews of those possessing special interest for the readers of the* MEDICAL NEWS *will shortly appear.*

THE NERVOUS SYSTEM OF THE CHILD. Its Growth and Health in Education. By DR. FRANCIS WARNER. Cr. 8vo. 233 pages. Illustrated. The Macmillan Company, New York and London.

A SYSTEM OF MEDICINE. By many writers. Edited by DR. T. CLIFFORD ALLBUTT. Vol. IX. Mental Diseases and Diseases of the Skin. 8vo. 998 pages. Illustrated. The Macmillan Company, New York and London, $5.00.

ANNUAL REPORT OF THE SUPERVISING SURGEON-GENERAL OF THE MARINE HOSPITAL SERVICE OF THE UNITED STATES for the fiscal year 1898. Washington, Government Printing Office.

THE CRIMINAL. His Personnel and Environment. A Scientific Study. By A. DRAHME. Demi 8vo. 402 pages. The Macmillan Company, New York and London. $2.00.

A DICTIONARY OF TERMS USED IN MEDICINE AND THE COLLATERAL SCIENCES. By R. D. HOBLYN. 13th edition by DR. JOHN A. P. PRICE. 8vo. 838 pages. Lea Brothers & Co., Philadelphia and New York. $3.00.

TRANSACTIONS OF THE TEXAS STATE MEDICAL ASSOCIATION. Thirty-first Annual Session. Held at San Antonio, Texas. 8vo. 348 pages. H. A. West, M.D., Galveston, Texas, 1899.

TRANSACTIONS OF THE LOUISIANA STATE MEDICAL SOCIETY. Twentieth Annual Session. Held at New Orleans, La. 8vo. 176 pages. H. G. Gessner, M.D., Secretary, New Orleans, La., 1899.

TWENTY-NINTH ANNUAL REPORT OF THE BOARD OF COMMISSIONERS OF PUBLIC CHARITIES OF THE COMMONWEALTH OF PENNSYLVANIA FOR 1898; also the Report of the General Agent and Secretary, Statistics, and the Report of the Committee on Lunacy.

NERVOUS AND MENTAL DISEASES. A Manual for Students and Practitioners. By DR. CHARLES A. POTTS. Pocket Text-Book Series. 12mo., 455 pages. Illustrated. Lea Brothers & Co., Philadelphia and New York. $1.75.

TWENTY-FOURTH ANNUAL REPORT OF THE MANAGERS AND OFFICERS OF THE NEW JERSEY STATE HOSPITAL AT MORRIS PLAINS. For the year ending October 31st, 1899.

CONSUMPTION AND CHRONIC DISEASES. A Hygienic Cure at Patients' Home of Incipient and Advanced Cases. By DR. EMMET DENSMORE. 12mo., 198 pages. Illustrated. The Stillman Publishing Co., New York.

HOME NURSING. Modern Scientific Methods for the Care of the Sick. By EVELEEN HARRISON. 12mo., 235 pages. The Macmillan Company, New York and London. $1.00.

TRANSACTIONS OF THE MEDICAL SOCIETY OF NEW JERSEY. 1899. 8vo., 411 pages. Dr. W. J. Chandler, Secretary.

MT. SINAI HOSPITAL REPORTS. Volume I. for 1898. 8vo., 341 pages. Illustrated. 1899.

TRANSACTIONS OF THE AMERICAN PEDIATRIC SOCIETY. Eleventh Session. Vol. XI., 8vo., 250 pages. Illustrated.

NORDRACH AT HOME, or Hygienic Treatment of Consumption. By DR. JOS. J. S. LUCAS. 12mo., 60 pages. J. W. Arrowsmith, 11 Quay street, Bristol.

CLINICAL STUDIES IN VICE AND IN INSANITY. By DR. GEORGE R. WILSON. Demi 8vo., 234 pages. The Macmillan Company, New York. $3.00.

SIXTH ANNUAL REPORT OF THE BOARD OF MANAGERS OF CRAIG COLONY AT SONYEA, N. Y. To the State Board of Charities.

THE INTERNATIONAL TEXT-BOOK OF SURGERY. By American and British Authors. Edited by DR. J. COLLINS WARREN and DR. A. PEARCE GOULD. Volume II., Regional Surgery. 8vo., 1072 pages. Illustrated. W. B. Saunders, Philadelphia. $5.00.

SURGICAL PATHOLOGY AND THERAPEUTICS. By DR. JOHN COLLINS WARREN. Second edition. 8vo., 873 pages. Illustrated. W. B. Saunders, Philadelphia. $5.00.

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ORIGINAL ARTICLES.

MYOCARDITIS IN INFANCY AND CHILDHOOD.[1]

BY HENRY KOPLIK, M.D.,

OF NEW YORK.

WERE we to judge of the frequency of myocarditis in infancy and childhood from the space devoted to the consideration of this disease in the pediatric text-books, we should rank it as rare and scarcely worth serious study. Yet all, or most all of our knowledge on the pathology and theory of myocarditis to-day has accumulated from observations upon the infant and child. The pathological anatomy of the condition certainly has received most of its facts from autopsies upon infants and children dying of the infectious diseases. The theoretical experimental work upon the myocardium has received its direction and stimulus from these autopsies. The classical book of Henoch treats of myocarditis in small paragraphs, relative with the infectious diseases; true, in a masterly manner, but yet not so as to impress the student with its ever present importance. From the standpoint of daily practice, it would not be overstatement to say that myocarditis, if not the most trying, is one of the most important conditions met at the bedside of the sick infant and child. It is sometimes the only thing that stands in the way of the recovery of the patient.

In the literature we are first struck with the uniformity with which the various workers in the pathology of myocarditis have established the presence of serious heart-muscle changes in autopsies upon infants or children dying of the infectious diseases. Any autopsy upon diphtheritic, scalatinal or typhoid material will uniformly show changes serious enough to have caused death. From the classical epoch-making work of Virchow to the convincing proof brought forward by Romberg, Hayem and Leyden, we find a uniformity of result. It would be out of place here to recapitulate changes in the myocardium established by Virchow, Romberg, Leyden and Hesse in the infectious diseases of infancy and childhood. Every well-read physician is familiar with them. It is, however, of the utmost importance to remember that Romberg found these changes to exist only in foci and not to affect the whole myocardium, as we would have the parenchyma of the kidney affected in acute nephritis. In other words, portions of the heart may be quite normal, others degenerated, in a fatal case of myocarditis.

Of greatest interest to the practising physician are the results of experimental work in the sphere of myocarditis. It has long been a question whether the temperature, the toxins, or the bacteria, individually or combined, were the cause of the myocarditis in the acute infectious diseases. T. W. Talquist, B. Werhofsky, Wm. Schamshin, Welch and Flexner, and J. Mollard and Ch. Regaud have given us very interesting data in this direction. As I have stated, they have been for the most part guided by the results found at autopsy upon infants and children, and have tried to produce similar conditions of fever and toxemia in their experiments on animals. B. Werhofsky has raised the internal temperature of the healthy animal by external means. He eliminated toxemia as much as possible and showed that heart changes, such as parenchymatous degeneration of the muscle cells, are undoubtedly produced by prolonged fever. The changes are not sufficiently marked, however, to account for the advanced myocarditis found in the infectious diseases. He concluded that the myocarditis found in these diseases is only in part due to the fever, and for the most part to toxins. To demonstrate that a toxin alone can cause fatal myocarditis, he has killed animals with abrin toxin. The changes in these cases consisted in marked parenchymatous myocarditis (cloudy swelling and fatty degeneration being very advanced). It would require much more space to go fully into the experiments with diphtheria toxin and its effect upon the parenchyma of the various organs. The leading facts can only be touched upon here.

The works of Welch and Flexner, Mollard and Ch. Regaud are of especial interest in relation to our theme. Mollard and Regaud, experimenting with the toxin of diphtheria, have found that animals injected with this poison not only showed an invariable parenchymatous degeneration in acute forms of intoxication, but sometimes this was the only lesion found after death. The muscular fibers were affected; they lost their striation and showed cloudy swelling. The nuclei and cytoplasm became affected. The vessels also were the seat of marked changes. In subacute poisoning, the interstitial form of myocarditis was added to the above picture. Leucocytosis in the acute toxemia was found in foci. These leucocytes, then, designate the phagocytes of elements of degenerating and disintegrating muscle-cells.

T. W. Talquist attempted to find out whether bacteria (in his experiments, streptococci) could, of their own activity, cause myocarditis. He came to the conclusion that streptococci find a bad culture nidus in the myocardium, and soon lose their activity. They do not proliferate, but die out after a time in the tissues. The toxins produced

[1] Read at the General Meeting of the Academy of Medicine, January 18, 1900.

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by them cause parenchymatous changes which in subacute cases may be supplemented by interstitial changes. All changes start from the pericardium or zones immediately adjacent.

Of still greater interest are the experiments of Wm. Schamshin, who examined the nerves and ganglia of the heart, with a view to determining whether the clinical symptoms of myocarditis could be connected with changes in the nerves, rather than in the muscle. He came to the conclusion that the nerves showed no changes whatever; the muscle-cell itself, primarily, was the seat of degeneration, and symptoms must be attributed to the presence of these changes. Making autopsies upon children who died of diphtheria and who had been treated with serum, he found that the late cases, only after the disease had lasted three days, showed parenchymatous changes. This fact is of the greatest significance in view of the modern tendency of the antitoxin treatment of disease.

I have thus sketched in broad outlines the doctrine of myocarditis in the acute infectious disease. Myocarditis is an entity, distinct, always threatening, and sometimes fatal in these conditions. The myocardium is peculiarly susceptible to the action of any toxin, whether it is that of abrin or that of the diphtheria bacillus. The fever plays but a subordinate rôle. This latter fact must impress itself on the mind of the physician; for some of the most toxic and fatal diphtherias or pneumonias run their course with a low fever demanding no therapeutic measure of itself. The symptoms, so far as the heart is concerned, are not due to changes in the nerves or ganglia primarily, but to lesions of the muscle-cell itself.

From a study of the literature we are impressed by the fact of the universal presence of heart changes at autopsy. This forces us to the inevitable conclusion, important to the physician, that myocarditis is more frequent than supposed, and is not only a great factor in the semiology of the infectious diseases, but is not always fatal, as the text-books upon pediatrics would lead us to suppose. In other words, a heart may have been the seat of myocardiac changes and still in the end be restored to the normal. The infant or child's heart must be particularly capable of restoration to the normal, if we consider the great number of infections it withstands before the advent of adult life. There may be conclusive experiments in the future which will justify the belief of Zenker, Waldeyer, and Hayem, that the diseased muscle fiber of the heart is capable of regeneration in the same manner as the injured nerve fiber, else we would have the vast number of adult hearts the seat of disease as a result of the repeated toxemias of infancy and childhood.

This brings the writer to the clinical part of myocarditis. We will consider the disease only as it occurs in the acute infectious diseases, and will not touch upon the myocarditis occurring in conditions of diathetic dyscrasias, such as congenital syphilis and tuberculosis. It would be impossible to formulate, with our present knowledge, any definite semiological table of symptoms which in the infectious diseases could be traced to a latent or marked myocarditis. If this were possible, our work at the bedside would be much more intelligent; we would hear less of sudden fatal issues to diphtheria, pneumonia, or other exhausting diseases. The original disease masks the symptoms referable to the heart. To-day we have a certain definite set of symptoms which supervene after the myocarditis has been well established. They may appear at the outset, as in diphtheria and endocarditis, or in the convalescence, as in diphtheria, typhoid fever, or pneumonia. The symptoms point, as a rule, to some functional weakness of the heart muscle, as evinced by feeble, disordered action of the organ.

One of the most striking effects of the serum therapy in diphtheria has been the uniform assertion of those whose observations are worthy of consideration of the great supporting action of the injections. On the second day after the injection, a child will be found sitting up and playing in bed, while the throat is still covered with membrane. What may this mean? It is that the toxic action of the disease has been arrested not only on the various organs, but upon the muscle fiber of the heart. Hesse, in pre-antitoxin days, proved that sudden death supervening at the outset of this disease from acute myocarditis, was not uncommon. Schamshin, on the other hand, has shown that myocarditis in serum cases is found only after the disease has lasted three days or more. Symptoms of functional cardiac disturbance may appear in the convalescence, not only of diphtheria, but of any severe throat disease of the streptococcus or staphylococcus variety. The following case will illustrate:

A female child, six years of age, had passed through a severe pseudo-membranous throat affection of a streptococcus type. The child was still confined to bed. In the early morning while sitting up to take her breakfast she was suddenly taken with faintness, a chilly feeling, vomiting and great precordial distress. On reaching the bedside I found the external temperature reduced to the touch, the pulse very irregular, flickering, and not rapid. With the application of restoratives the little patient did well, but these attacks of faintness and cardiac irregularity continued for months after the disease had run its course. The child made an eventual recovery to the normal. This was without question a cardiac affection due to the toxic action of the disease on the heart muscle.

I have to-day under constant observation a boy of four years of age. When a baby nine months old he had suffered from a severe and prolonged attack of malarial poisoning. The plasmodium was found at that time in the blood, but only after the disease had lasted some time. The temperature during the first period of the disease reached the maximum of 106.5° F. in the rectum. After prolonged convalescence, dur-

ing which the infant and afterward the child was allowed to be the subject of repeated attacks, we find to-day the following condition: A well-nourished child for his age, he is not over fat. When free from symptoms his color is very good. His pulse has an irregularity not more marked than is common to children. He is subject to attacks of weakness. He becomes pale, his hands feel cool, his heart is very irregular and sometimes his sickness compels him to leave his play and lie down. The mother, who is very intelgent, has observed him during these attacks. His pulse is flickering and very irregular. These attacks will come on even during sleep; a cold perspiration will break out over his face and the extremities are cool; no temperature; no enlargement of the spleen; no blood plasmodium; no cardiac abnormalities except a weakness as apex of the first sound. Quinine not given at these times. The conclusion, in view of the excellent condition of this boy between these syncopal attacks, the absence of cardiac valvular disease, has been, for me, that the prolonged malarial poisoning has left the heart muscle compromised. It may eventually be restored to the normal.

The pneumonias of infancy and childhood furnish their quota of disturbances of heart action, which may point to very serious effects of toxins of the disease upon the heart muscle. Of the primary pneumonias, functional derangement is apt to appear at the time either of the onset, at the appearance of the crepitant râle or at the time of the crisis or convalescence. I have often seen at the outset of the pneumonia, an infant overwhelmed by the disease. Such infants may be over fat; they bear illness very badly. There are at the outset evidences of poor heart action in a pallor, with slight cyanosis, rapid heart action. It is impossible in such cases to say whether we have a primarily fatty, weakened organ, or distinct changes in the myocardium due to infection, or whether the organism is overwhelmed with the disease. In the beginning of convalescence, however, at the time of the crisis, such a case as the following is apt to cause great uneasiness. The presumption of myocarditic change is very strong. The following case is illustrative:

A boy, eight years of age, suffering from a most severe lobar pneumonia, right lower lobe, with marked cerebral symptoms at the outset. The cerebral symptoms persisting throughout the disease. At the time of the crisis the temperature fell to subnormal; without any previous symptoms, irregularity of pulse set in to a very marked degree, so much so that the pulse was thready and seemed to threaten to stop. There was some precordial uneasiness. The systolic apex-beat was weakened and the second pulmonic sound somewhat intensified; no signs of cardiac dilatation. This boy caused great uneasiness for days, and for a time into the convalescence.

On the other hand, the following case in which an autopsy was made will be of interest: A boy, nine years old. suffering from an acute osteomyelitis of the tibia, after a week's illness developed quite suddenly a pneumonia of the right lung lower lobe. When seen by me his pulse presented gallop rhythm; his respirations were much accelerated; there was cyanosis, pallor and great precordial uneasiness. The boy looked mortally ill. The heart gave the most interesting signs. At the apex both sounds were very indistinct. The muscular part of the first sound was scarcely appreciable. There was a very slight valvular quality to the second sound. At the pulmonic valve there was slight accentuation of the second sound. A diagnosis of great cardiac weakness was made; possibly heart clot. The autopsy, two days after, in addition to the pneumonia and osteomyelitis showed a somewhat flabby heart; a microscopic examination was not made, although it in all probability would have been found degenerated, arguing from the macroscopic consistency.

The most interesting class of cases and yet those which some would least be willing to admit as belonging to this category of myocarditic changes are the severe cases of pertussis. The writer has shown that in these cases the heart is subjected to great strain. Henock speaks of fatty degeneration of the heart muscle in prolonged and complicated cases of pertussis. Osler speaks of the strain on the heart and its possible etiological factor in producing heart disease later in life. In my own work on heart strain in pertussis I showed distinctly that the cardiac area was increased in many of these cases, although it was impossible to positively prove that dilatation of the ventricles existed. The heart action in all of these cases is weakened and insufficient. There is a constant dyspnea and constant pulse acceleration even between paroxysms, constant drowsiness, edema of the face and extremities, all showing cardiac insufficiency. Auscultation even shows slight blowing murmurs at the apex and weakness of muscular sounds. There are other evidences in these cases of cardiac insufficiency, such as pallor and cyanosis, weakness and disinclination to exertion, such as mounting stairs. The pulse is not only increased, but markedly irregular and dicrotic with sustained tidal waves. The evidences of strain and consequent weakness of the myocardium, and, as Henoch put it, fatty degeneration, are overwhelming. They are the result not only of strain during the paroxysms, but the effect of the toxic influences of the disease itself.

In complicated cases the toxemia is increased by the complicating conditions. A very large class of cases in which the integrity of the heart muscle is seriously compromised are those in which the patient is the victim of endocarditis or pericarditis.

The prognosis of rheumatic cardiac affections is much more favorable in infants and children than in adults. In other words, it is common in infants and children to find murmurs, the result of healed or past endocarditis, giving no symptoms. The heart and

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economy do not seem to suffer much from these healed conditions. They are found incidentally to examination for other affections. In acute endocarditis, in the active stages of the disease, most observers have been able to make out a palpable increase in the relative cardiac dulness. This dulness diminishes in the convalescence, and if the disease is cured, the heart areas are found normal. Not so should the heart be the subject of a subacute process or repeated attacks of endocarditis. The dulness will increase very palpably. Added to this will be found other evidences of heart weakness. Such hearts are apt to act very unsatisfactorily upon the supervention of any infectious disease, such as measles or scarlet fever. I have seen such hearts become very insufficient, the swelling of the liver and spleen become more marked. In the convalescence and thereafter attacks of vomiting and faintness supervene, the swelling of the liver is apt to persist and attacks of cardiac angina and precordial distress are frequent. So great is the recuperative power of the heart in children that such cases may even retrograde, the liver diminish in size, the attacks of angina subside, the heart action become quieted; in other words, signs of degenerative effects may disappear. Such a case is now under my observation.

A girl, aged fourteen years, who has been the subject of simple endocarditis since an attack of measles in infancy, and under constant observation. Two years ago she had an attack of scarlet fever. The above signs of cardiac inefficiency appeared and persisted for months, finally to disappear, leaving only the signs of the old endocarditis.

The most trying cases of heart weakness with degeneration of muscle fiber are those of adherent pericardium. In most of the cases the changes in the pericardium are combined with those in the endocardium. The degenerative changes in the muscle fiber of the heart are more serious than in any other form of rheumatic heart disease. There is actual destruction of muscle fiber and its replacement by connective tissue. The following is a case in point. The history of rheumatic endo- and pericarditis extended over two years. The boy, six years old, after repeated attacks of endo- and pericarditis developed an attack in which signs of heart weakness were extreme. The respirations and pulse ran up to an abnormal degree, the pulse and respiration ratio being 2 to 1 for weeks. He died with all signs of progressive cardiac weakness; post-mortem revealed marked interstitial myocarditis starting from the pericardium principally and very marked increase of brown pigment in the interstitial tissue, and also in the spaces between the muscle cells of the myocardium.

Possibility of Diagnosis During Life.—The question which will arise in the minds of most physicians is whether the diagnosis of myocarditis can be made positively during life. The literature shows that the most extensive myocarditis has been found at autopsy, and yet during life no symptoms referable to the heart were noticed. This fact, and also the fact that the most serious cases of myocarditis first show their presence by the sudden death of the patient in apparent freedom from symptoms, has engendered a pessimistic attitude toward the conditions which we have described. This attitude is harmful. It is not in accord with the advances in our knowledge. If we cannot make a positive diagnosis, we may suspect in a great many cases the presence of myocarditic changes in the face of certain symptoms. If the fatal cases have baffled our methods of recognition, we have a large number left in which certain symptoms of cardiac weakness should put us on our guard.

If, in the course of an infectious disease, we have attacks of faintness, pallor, vomiting, disturbed and very irregular heart action, a persistent distortion of the respiration and pulse ratio as in adherent pericardium, it is certainly significant, especially if these attacks have a tendency to recur. If examination of the heart shows extreme weakness of the apex beat, weakness of the first sound, or disappearance of its muscular quality, greater intensity of the second sound at the apex, with intensification of the second sound at the pulmonic orifice, we certainly in these have danger signals of greatest moment. If, in addition, as in pertussis, we have other signs of cardiac insufficiency, such as a slight systolic blow at the apex, edema of the face and extremities, pallor and cyanosis, disinclination to exertion, constant drowsiness, it would be certainly narrow, in view of our pathological and experimental knowledge, not to entertain the possible existence of serious degenerative changes in the heart muscle.

The daily labor of the physician is at the bedside of the infant and child suffering from the infectious diseases. He may be unconscious of the fact, but the recovery of his patient will in the vast majority of his cases depend on the action and integrity of the heart muscle. His therapeutic methods must not simply reduce temperature, but in reducing temperature they must not compromise the utility of the heart in order that the patient may tide over the dangers of the illness. In all this we must foster the modern tendency of treatment which is to support the strength of the patient. The danger which hovered over patients who formerly were given large doses of depressant drugs can be appreciated, if we believe what has been brought forward in this paper. As to the heart, we should never forget that it is fortunate that even in a degenerated organ we have healthy tissue on which our drugs and methods are supposed to act. We must not exhaust these healthy foci by overwhelming them with harsh measures or large doses of powerful drugs. Foster their strength rather. The areas of degeneration will not be aided by drugs, but must be healed; in time, possibly, there may be regeneration of new tissue. The hope of these cases then lies in well-sustained nutrition, carefully and persistently regulated.

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UTERINE FIBROIDS COMPLICATED BY PREGNANCY.[1]

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A FIBROID tumor of the uterus does not necessarily imperil life. Its position, its size, and the rapidity of its growth are factors that must be taken into account when advising as to what treatment, if any, is necessary. Complications that arise from pressure, or from hemorrhage, or from degenerative changes, often demand radical measures. It is usually because of some of the complications arising from the presence of the fibroid that the patient first seeks the advice of a physician. Very large symmetrical fibroids of the intramural variety have been discovered by the physician before they were known to the patient. The position of the fibroid or its relation to the true structure of the womb is of more importance, perhaps, than the size of the tumor. A small fibroid in the top of the womb may remain for years without doing any special harm; whereas, a growth of the same size on the side of the uterus at the base of the broad ligament may interfere with the ureter so as to cause death. Again, the small fibroid embedded in the body of the uterus and projecting into its cavity so that its capsule is ruptured, may cause such troublesome and persistent hemorrhage as to warrant a hysterectomy. A soft myoma may give no pain and yet increase in size so rapidly as to endanger the life of the patient.

Pregnancy is one of the complications, rarer perhaps than others, but it is seen frequently enough to make it an interesting topic for discussion. It is probable that pregnancy takes place more frequently in a fibroid uterus than was formerly supposed to be the case. I am inclined to think that many serious conditions following normal childbirth are due to the presence of small unrecognized fibroids. It is very often the case that no examination of the uterus is made until the time for normal delivery of the child, and a fibroid easily escapes observation unless a most careful examination is made. I am inclined to think that pregnancy occurs less frequently in subserous fibroids than in the intramural class. Of course, a large submucous fibroid, if it is at all extruded into the cavity of the uterus, will naturally prevent conception. Again, a fibroid which involves either lip of the cervix enough to distort the cervical canal will probably prevent conception.

The dangers attending pregnancy where there is an intramural fibroid are overdistention and rupture of the imperfectly developed fibers of the uterus, or the prevention of the normal first stage of labor by the presence of the inelastic fiber tissue at the neck; or, displacement of the uterus so as to distort the natural birth passages; and, lastly, sepsis following infection after delivery. It is impossible to make a rule which shall define the limits of danger and prescribe what operative procedure shall be followed in the dangerous cases. I venture to relate a few typical cases that have come under my observation which seem to me to illustrate the conditions that may safely pass to normal delivery; and also to illustrate those conditions where surgical interference is necessary.

Case I.—In 1892 a young woman was sent to me with a fibroid tumor of the intramural variety involving the body of the uterus, chiefly on the right side. The cervix was free. The tumor extended half way to the umbilicus. The woman was well in every way and had no hemorrhages, but wanted to discuss the advisability of an operation. She declined to be operated on and was treated for a time with ergot. In November, 1893, she was married, at the age of thirty-three. She miscarried at the second month in April, 1894. There was no infection following and she was not long sick. In January, 1896, I was called to see her and found her eight months pregnant, the tumor displaced over to the right side and easily distinguished from the sound uterine tissue. The fetus lay very high, the uterine wall was thin, the cervical region was free, although the tumor extended to the umbilicus. The fibroid came to the median line in front and the uterus seemed to have developed laterally to the left side, the fibroid forming the right lateral wall of the uterus. I prepared for a total hysterectomy, informing the family of the great danger, and awaited the time for delivery, which occurred in February. There was not much trouble with the first stage of labor, although it was a breech presentation, and when dilatation was accomplished the feet were brought down and the child was easily delivered. It was alive and healthy. The afterbirth did not follow and finally was found implanted in the right side near the fundus, at the top of the fibroid, as if laid on a shelf made by the projection of the fibroid into the uterine cavity. This was removed with great difficulty, but with as little violence as possible, and with thorough attention to antisepsis. The uterus afterward contracted and the patient made a good getting-up, although for about six months she had occasional bright hemorrhage. This did not amount to enough, however, to call for any special interference but was accompanied with some pain similar to after-pains. At the end of the six months she had a sudden gush of blood with great pain, and extruded a fibroid tumor the size of a cocoanut. She has since remained well. Menstruation has been regular but scanty. An examination made recently shows the uterus retroverted, but not much enlarged, the cervix tilted up under the pubic arch, and the body of the uterus easily made out. In the posterior right lateral wall are three small subserous fibroids not larger than a walnut seated above the internal os. The woman is in perfect health. This type of case rarely becomes pregnant, I think, and is one in which the danger of pregnancy is not very great. The reliance for safety of delivery was based upon the fact that the lower part of the

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uterus was free and that none of the cervical tissue was involved. It was, therefore, determined that she could be delivered, and the only remaining danger was sepsis. I fancy, however, that this fortunate outcome is not often seen.

Case II.—I was called in April of 1899 to see a woman who had been sick for eight weeks following a miscarriage. The history showed that this was the first pregnancy in a young woman who, when three months advanced, was thrown from a bicycle while riding and was taken into a neighboring hotel, as she was so ill that she could not be taken home. She miscarried in two or three days. The afterbirth was not easily removed and septic symptoms supervened, continuing for eight weeks, at which time I was called to see her. She was profoundly septic, with a high temperature, with a feeble, thready pulse, and with a foul-smelling discharge which frequent vaginal douches and antiseptics had not improved. I found a tumor in the posterior wall of the uterus the size of a cocoanut, involving part of the posterior wall of the cervix and extending into the uterine cavity above. This mass was sloughing and I advised an immediate hysterectomy, which was declined. As a temporary measure I curetted away large masses of this fibroid and packed the uterus with gauze, hoping to relieve the immediate symptoms and then secure a hysterectomy. The tubes did not seem to be involved, and, indeed, the condition was one of local putrefaction. Any further operation was declined and after a few days the woman died. The trouble in this case seemed to be largely due to the position of the fibroid, which was low down in the body of the uterus, posteriorly, and the capsule of which must necessarily have been ruptured during the process of dilatation previous to delivery, rendering infection almost certain. If she had gone on to full time it is doubtful if she could have been delivered naturally.

Case III.—In August of last year I was consulted by a woman, thirty years old, who said she had a tumor and who seemed very ill. It was found that she had a fibroid the size of one's fist near the left cornu of the uterus, and that the uterus below seemed distended as if pregnant. She denied the possibility of pregnancy and for a month or two it was very hard to be absolutely certain of the condition. At the end of three months, however, there was no doubt and the patient was retained in the hospital for observation. She was really too ill to be at home or to be cared for out of the hospital. The nausea and distress were dreadful and several times the question of inducing an abortion was discussed. The uterus rose very high toward the last of her term, and the distention was so great as to incapacitate her from moving about. No other fibroid mass was to be found in the uterus and it was thought to be safe to wait for a normal delivery. This occurred without any untoward circumstances and with very prompt contraction of the uterus, leaving what seemed to me to be a much smaller fibroid than the woman started with.

Case IV.—A woman, aged twenty-nine years, in her first pregnancy at the fifth month, who had been told that she had a fibroid and that it would not materially interfere with labor, was taken suddenly ill with pain in the abdomen and with some rise of temperature, and I was summoned to a neighboring town to see her. She was so sensitive to touch that an examination had not been thoroughly made by her physician, who was entirely competent and had desired to do so. It was not until I had argued the gravity of this condition for some time that I was permitted even to attempt an examination. The abdomen was very tense and fully distended, and the cervix was found fixed and impacted by a fibroid about the size of one's fist arising laterally from the left anterior wall of the uterus, just opposite the internal os. The whole birth canal was so occupied with this impaction that it would have been impossible to have delivered anything out of the uterus. I tried to get permission to administer an anesthetic and see if I could dislodge the fibroid, saying that unless this could be done a hysterectomy seemed to be necessary at once. In view of the gravity of the circumstances I advised enlarging the consultation and called Dr. H. C. Coe of New York. He agreed with the proposition already made and suggested that she be taken to the hospital where an operation could be done at once. After she was brought to the hospital I was able to manage the case better, and the next day had her placed in the knee-chest position and with the help of two assistants succeeded in unlocking the fibroid from below the ramus of the pubis where is was lodged, and in shoving it up into the abdominal cavity, thus relieving the impaction. The pain continued, however; there was slight rise of temperature, and it was feared that the impaction which had remained several days might have started a process of necrosis. A second consultation was called for the purpose of determining whether a hysterectomy should not then be done. The patient was prepared for abdominal section, and when under ether it was discovered that the fibroid remained above the pelvic bone, and that the cervix was practically free from any fibroid thickening. The normal uterine tissue, which had stretched to accommodate the fetus, was sound. We declined to operate and put the woman in bed, and after several days of careful nursing the temperature fell, a normal condition came on and she was delivered of a healthy child. The delivery in this case was very troublesome owing to the fatigue of uterine muscle and its apparent inability to expel the fetus. Dilatation was fairly well secured and the forceps were put on high up and the child was delivered. The placenta was implanted on the right side, fortunately, and the fibroid was not infected; and although there was considerable laceration of the perineum, which was immediately repaired, no septic symptoms followed. The fibroid was not materially diminished, but it is not six months since delivery. The opinion that the delivery of a three-months' fetus

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could not be secured through the natural passage while the fibroid was impacted was concurred in by the three men who saw her. After the dislodgment of the fibroid the risk of waiting for a natural delivery was accepted because the neck of the uterus was not involved, and because there was a sufficient amount of healthy uterine tissue on the right side posteriorly to allow of dilatation.

Case V.—Last year a woman, aged forty years, who had borne three children, was sent to me for examination. She was in the fourth month of pregnancy and had been complaining of pain that was unusual and had gone to her family physician, an excellent man, who had made an examination and found a fibroid tumor in the anterior wall of the uterus. This tumor was directly in the anterior wall, beginning at the cervical junc-

FIG. 1.

Fetus, placenta and its implantation; uterus and fibroid bisected.

ture of the vagina and protruding forward. It was larger than a cocoanut so that the uterus was shoved backward, and about all that could be felt in the vagina was a hard fibroid mass. There was but a small segment of the cervix that seemed free enough to warrant the supposition that it would dilate, and it was decided that a miscarriage could not be produced and that a natural delivery would be impossible. The question of allowing the condition to remain until near the time of natural delivery and then doing a Cæsarean section was discussed, but this plan was abandoned because there was not room enough above the fibroid in the anterior wall of the uterus to deliver the child safely, and it was thought that the fibroid would be infected by the operation. Dr. H. C. Coe also saw this case with me and concurred in this opinion. Supravaginal amputation of the uterus was done, an elastic ligature being placed above the point of incision, and the uterus and its contents removed entire. The patient made an uneventful recovery. A photograph of the fibroid shows the uterus split from before backward with the placenta attached. (Fig. 1.) The shrinking of the thin uterine muscle above, due to its immersion in alcohol, does not give a correct idea of the space in which the child rested above the placenta and fibroid. This case demanded operation more urgently than any that I have seen, and there was no doubt in the minds of some half-dozen good surgeons who saw the woman but that an operation was absolutely necessary.

Case VI.—Last year Dr. L. A. Van Wagner sent to me for examination a woman whom he had only seen casually and who had been under no medical care previous to her coming to the hospital. She had been flowing continuously for about a year, and the examination which had been made showed that there was a small tumor in the vagina and a larger one in front at the base of the bladder. She was forty-seven years old and weighed one hundred and eighty-five pounds. She said that nineteen years ago she had given birth to her first and only child. Labor began at ten o'clock in the evening and terminated at seven o'clock the following morning. She did not recollect that anything unusual had happened, and had no special medical care at the time or afterwards, although a physician was present at the time of the birth of the child. She was able to sit up on the ninth day and was about the house five or six days later. An offensive discharge followed labor, which was continuous, so that a napkin had to be worn for a long time. She had severe headaches and backache which also continued for a long time. She began menstruating three months after delivery and flowed excessively and had great pain, but after a time the periods became more regular, occurring every three weeks. On admission to the hospital she was found to be anemic, but otherwise in good health. She had a large, capacious pelvis, short, large vagina, and a relaxed perineum. A mass was found at the base of the bladder which was drawn down easily, came out of the vulva, and was found to be the neck of the uterus, about three inches long, torn across the posterior wall at its junction with the body of the uterus, so that the cavity of the uterus was entered through an opening large enough to admit two fingers. In this opening was a submucous fibroid projecting about the size of an egg, and having a pedicle attached to the anterior wall of the uterus. A male sound passed into the cervical canal and through the opening into the vagina showed no cicatrix of the cervix where any dilatation or tear had ever occurred, and a small circular os which had never been dilated. The wall was thickened and fibrous, both posteriorly and anteriorly, at the point of the rent, the tissue being perhaps an inch thick. (A photograph of this is shown in Fig. II.)

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After removing the polypus and curetting the uterus, which measured four inches in depth, the half-detached neck of the womb was amputated and a new cervix made. The amputated neck was intact and was some two and a half inches long, and its dissection showed no scar-tissue and no evidence that it had ever been dilated. I am forced to conclude that this very rare case was one of spontaneous delivery of the child through the posterior wall of the uterus, before which the neck of the uterus was torn and a spontaneous recovery occurred. I think these photographs taken in connection with the history of the case show a unique condition

FIG. 2.

Uterus presenting at the vulva, the sound showing the rent in its posterior wall.

and a recovery the like of which I have never seen reported. It is probable that the fibroid thickening of the anterior wall of the uterus, which extended down so as to involve the cervix, made this uterus unable to dilate enough to admit and give exit to the head of the child.

The cases that I have related seem to me to be sufficient in number to indicate, in a general way, that the rule may be established that where the lower third of the uterus and the entire cervix are free from any neoplasm, the physician may safely await the result of the pregnancy, even if the fibroid is of considerable size. If a neoplasm of any considerable size is found opposite the internal os, especially if it is large enough to in any way block the birth canal, then the question as to waiting until the child is viable and doing a Cæsarean section, or whether a total hysterectomy must be done early, is determined by the position of the fibroid, whether it is in the anterior or posterior wall of the uterus. An impacted fibroid requires an early hysterectomy unless it can be released, or unless the fibroid is high enough up so as not to involve the lower third of the uterus to any considerable extent. The dangerous position for the fibroid is in the anterior wall of the uterus, low down, because it would be difficult to do a Cæsarean operation successfully at any time. A uterus sometimes ruptures because of a neoplasm of no very great size which involves the lower segment of the uterus and the cervix; and unless this accident is prevented by very early operation it is probable that in most cases of rupture of the uterus sudden death occurs and the cause will be found to be a fibroid tumor.

After a delivery at term or a miscarriage at any time if the uterus has a fibroid that becomes infected a hysterectomy should be done at once. In every case of fibroid uterus when pregnancy occurs the patient should be carefully watched, and especially if the neoplasm is in the lower half of the uterus. A subperitoneal fibroid, especially if it has a pedicle and is attached to the upper half of the uterus, is not likely to do harm unless sepsis follows delivery. Such a fibroid can be removed before delivery without necessarily producing a miscarriage.

TOXINS FROM A CHEMICAL AND PATHOGENIC STANDPOINT.

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AT the present time, when advances in pathology and bacteriology are so rapid that books of to-day contain facts unknown a year ago, and when the habits and environments of bacteria as to food, temperature and moisture are almost as familiar to us as those of orchids and chrysanthemums, we are apt to attribute to the bacteria themselves the pathological changes, associated with each and every specimen; nothing could be more false than to attribute to the tangible thing which we can see, *i.e.*, the bacterium, the changes in tissue which are really due to the intangible thing which we cannot see, *i.e.*, the toxin, the product of the bacterium. The bitter almond is harmless under certain conditions; we can handle it, inhale it, even inject it into the blood without injury, but as soon as it enters the stomach, and its enzyme, emulsin, splits off the hydrocyanic acid, then it becomes extremely poisonous.

Thus, while bacteriology has been able to elu-

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cidate many misty points in the history of disease, it has reached its limit and has nothing more to offer us; but now the chemist steps in and the question becomes a chemical one as Hoppe-Seyler predicted it would, years ago, when bacteriology was first introduced into the University of Strassburg, as a separate branch of study. The task of chemistry is, then, to determine the nature of these poisons produced by bacteria, and right well have many of her devotees, such as Brieger, Gautier and Nencki, attacked this problem; their work abounds with new-found facts.

For convenience, they have all agreed to call these substances, toxins, in contradistinction to ptomains and leucomains, although we must confess that the distinction is not so carefully drawn as we might wish. If we allow the term ptomain to represent the basic substances formed in decaying albuminous matter, as Selmi first used the term and which are composed of a mixture of neuridin, cholin, ethylendiamin, putrescin, cadaverin, etc., as Brieger has shown,[1] then we are allowed to use the term leucomain for those pathological products formed by the abnormal living cell, or living cell in a diseased state in the human economy. We have an example of this, for instance, in the excessive production of what is normal to a limited degree, xanthin, kreatinin, adenin, etc., which, of course, may be the result of a diseased process and not the cause. We can confine the term, toxins, then, to those noxious products of bacteria, formed in the animal body, or, what is quite similar, in pure culture, since the conditions of the latter are quite analogous as far as moisture, temperature, etc., go, to those in the former, while it is, of course, much easier to procure our toxins from culture than from blood or other fluids of diseased individuals.

These minute organisms like other living beings, take in nourishment which, in their bodies, is subjected to certain chemical changes, oxidation, synthesis, etc., by which the simplest as well as the more complex substances may be formed. We find an admirable illustration of this in the formation of alcohol by the yeast-cell from sugar, a noxious as well as a useful substance in proportion to the amount used. In an analogous way, we may have diphtheria of such a mild type that the individual may not be inconvenienced at all, or so severe that the life is endangered; all depends upon the amount of the toxin evolved by the bacillus and absorbed by the individual.

At this point it will be well for us to take an account of stock, so to speak, and to arrange in order what is known concerning these evanescent products of the micro-organisms of different diseases. We are not speaking now of serums, of which there are many in daily use; these from their method of manufacture must necessarily be made up of several substances and undoubtedly contain the diluted toxin or, as bacteriologists choose to call them, antitoxins. What we choose to call toxins are the extracted crystalline products from the pure culture, soluble in water and usually in the form of the chlorid.

From the staphylococcus pyog. aureus. Brieger[2] was able to obtain a toxin, in the form of a chloride, which reacted to all the alkaloidal reagents, but was not tested by injection into animals. In fact, Panum,[3] the Danish physiologist, should have the credit of first calling attention to this subject, having been able to extract from the pus of a case of septicemia an active poison of a chemical nature, and was able to demonstrate the toxic effects of certain microbic diseases were not at all different from those of vegetable poisons like strychnine or coniine. But Brieger was able to procure enough of these products to actually perform an elementary analysis and to demonstrate their chemical formulæ.

Armand Gautier[4] has summed up briefly and well the nature of toxin as follows: "All infectious microbes act upon the organism by the poisonous products or toxins which they secrete. These poisonous products are chemical substances susceptible of filtration, precipitation and resolution. These toxins are usually complex, made up of an alkaloidal material and a nitrogenous substance which is very active. The primary effect of all these toxins is rise of temperature, and probably all fever is produced by the agency of some one of them.

From the streptococcus Brieger was unable to isolate any characteristic toxin, but from the Koch-Eberth, or typhoid bacillus, he was able to obtain a toxin which, injected into a guinea-pig caused salivation, dyspnea, paralysis of the hinder extremities, dilatation of the pupils and diarrhea. This substance in the form of chloride reacted to most of the alkaloidal reagents. The same author has described a crystalline toxin which he has extracted from the tetanus bacillus, and which when injected causes all the symptoms of tetanus. Following these investigations further, we find that Roux and Yersin[5] were able to isolate from a Klebs-Loeffler bacillus culture an active toxin which, they claim, has many of the characteristics of an enzyme in that its activity is very much diminished when heated to a temperature of 58° C., and completely destroyed at a temperature of 100° C. The activity of this poison extracted is also comparable to that of enzyme in the excessively small amount necessary to produce results; it was thus proven that one-half of a milligram was sufficient to cause the death of a guinea-pig.

Later Baldi[6] found an active toxin in diphtheria cultures and regards this noxious principle as a substance replacing the sulphur in the protein molecule. In 1896 Brieger,[7] by a new method, here given, succeeded in extracting from antitoxin serum an active principle of which he was able to obtain .1 gram in 10 c.c. of the serum. From the bodies of the bacteria, after the culture media plus the bacteria had been filtered through a porcelian filter, he was able to obtain a powder of which 0.01 grams, suspended in water, would kill a guinea-pig in forty-eight hours.

Vaughn[8] has also been able to obtain from the culture of species of bacteria found in drinking water, supposed to have caused typhoid fever, an

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active toxic principle, soluble in water, which does not respond to the usual reagents for albumen but possesses the characteristics of an alkaloid, yet there is a rise of temperature, abdominal distention and distress with tenderness. The animals fall upon their sides and have vomiting and diarrhea.

Methods of Extraction.—The starting point of all processes is first to concentrate the solution containing the cultures, either before or after filtration through an unglazed porcelain filter, which separates the bodies of the bacteria from their formed toxins. This concentration must always be done at a low temperature for obvious reasons, and, if an attempt is to be made to obtain them in their crystalline form, a small amount of hydrochloric acid is to be added so that the fluid shall react slightly acid. From this point the methods differ, and we have four distinct ways in which they can be isolated.

(1) Brieger's method, briefly stated, is, after concentration and filtration, to precipitate with an alcoholic solution of lead acetate, filter, remove the lead by sulphuretted hydrogen and evaporate to a syrup; this again is to be extracted with alcohol and the alcoholic solution to be precipitated with an alcoholic solution of mercuric bichlorid. This mercuric precipitate is now cooked out with water, freed from both alcohol and mercury and reduced to a syrup, neutralizing the solution carefully with soda, so that it shall react only slightly acid. This is again extracted with alcohol, filtered, the alcohol driven off, and the residue taken up with water which now contains the toxins in a pure form and the crystals are readily obtained by evaporation over sulphuric acid in a desiccator; or, we may add gold or platinum chlorid and obtain the double salt of gold or platinum and the toxin as a chlorid.

(2) In the method of Roux and Yersin, the liquid containing the toxin, after filtration through a Pasteur filter, is concentrated to a syrup, extracted with 80 per cent. of alcohol, the alcohol driven off by evaporation, 5 c.c. of water added and the whole poured into a dyaliser, and allowed to remain twenty-four hours, when the water in the outside glass is found to be very toxic.

(3) The method of Stas Otto, used so often for obtaining alkaloids from organic substances with which they are mixed, consists of cooking the cultures for an hour or so with a dilute alcoholic solution of tartaric acid, filtering, evaporating to a syrup, again extracting with alcohol (absolute), driving off the alcohol, taking up the residue with water and shaking respectively with acidified ether, alkalinized ether, and, finally, with ether containing ammonium chlorid.

(4) Brieger and Boer[7] have devised a fourth method which consists in the following procedures: Add to the culture media, after they have been filtered through porcelain, two times as much: 1 per cent. zinc chlorid solution, wash the precipitate and shake it up with a 3 to 6 per cent. solution of ammonium carbonate, add zinc phosphate until all is dissolved and a cloudiness from zinc phosphate results. Filter, saturate the filtrate with ammonium sulphate, dissolve the precipitate in water, and shake this with sodium sulphate, filter, and the toxins are found in the filtrate. Of these methods the first has proved inefficient in providing enough of the toxins for satisfactory examination, for two reasons: (*a*) Because the toxins are destroyed even by a very low temperature and are undoubtedly decomposed by the repeated use of sulphuretted hydrogen; (*b*) because unquestionably a part of the toxins are thrown down by the first precipitation with lead. The second method of Roux and Yersin is a bacteriological rather than a chemical one, and the resulting product is a mixture of various toxic products, one of which is albumose-peptone, which the alcohol fails to precipitate and which, upon being injected, causes many of the symptoms wrongly ascribed to the toxin. It is interesting, however, as showing that the microbic poison can pass through an animal membrane and that it is closely combined with albumoses, which are the constant constituents of culture media after inoculation. The third method is pronounced worthless by Brieger for the extraction of toxins, however useful it may be for the isolation of the vegetable alkaloids.

With the fourth method, we have had no experience, although it would seem to do away with the three difficulties of the first method, *viz.*, the use of heat, sulphuretted hydrogen and lead. We have also found that the sodium chlorid, formed by neutralizing the excess of hydrochloric acid by soda in the first method, is very hard to remove and the crystals are apt to render the crystalline toxins impure. These toxins, when once separated from their combination with the albumoses, are precipitable by all the alkaloidal reagents, such as phosphomolydic and phosphotungstic acids, iodates of cadmium-potash, gold and platinums chlorids, picric acid and bichlorid of mercury. Almost all of these precipitates are crystalline and the double salts, formed with platinum and gold, are generally chosen for elementary analysis on account of their greater stability.

Our own efforts were confined to the cultures of typhoid and diphtheria bacilli and consisted of the following experiments:

Experiment I.—One liter of culture of typhoid bacilli, filtered through a porcelain filter and obtained through the kindness of Dr. R. M. Pearce of the City Hospital Pathological Laboratory, was subjected to the process of Brieger and the final product was a few c.c. of a colorless liquid which gave none of the reactions of protein matter, but gave precipitates with the following alkaloidal reagents:

Gold chlorid, crystals; platinum chloride, none; picric acid, none; bis. potass. iodid, copious; cad. potass. iodid, copious; potass. iodo-iodid, none; mercuric bichlorid, none.

The crystals formed with platinum chlorid were long, yellow, needle-like bodies, often cross-

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ing each other at various angles and resembling very much sheaves of wheat or very much similar to crystals of tyrosin as they are found in urine or from pancreatic digestion, and were much as described by Brieger as a double chloride of platinum and typhotoxin. These crystals were easily soluble in water and after all the substance had been precipitated by platinum chlorid, the crystals were lightly washed after drying, and then dissolved in water from which the platinum was removed by sulphuretted hydrogen. There resulted an absolutely protein free, colorless solution which, when allowed to evaporate over sulphuric acid, gave several centigrams of a crystalline substance whose general form of crystallization was that of a tetrahedron, absolutely colorless and perfectly soluble in water. In order to verify this substance still further .010 mgms. were injected into a rabbit weighing 1038 grams on March 6th, with no appreciable effect. On March 7th, .020 mgms, were again injected, also with no effect, and March 8th once more .040 with a similar result. On March 13th, at 1.50 the remainder of the substance, amounting to .1125 gms. was injected into the same rabbit with almost immediate results. Within ten minutes the respirations ran up to 460 per minute; in fifteen minutes after the injection there was paresis of the hinder extremities of such a nature that the rabbit could not stand, but lay upon his side. The legs could be feebly retracted when irritated by pinching or by touching them with a sharp instrument. Following this there was a discharge of liquid feces; the head was drawn back, and there were slight convulsions. At 3.30 the animal had recovered from the initial severity of the symptoms, but was kept under observation for the following week during which it was very sluggish, ate very little, had loose discharges mixed with mucus and blood, and on March 21st died, eight days after the first symptoms.

During the latter period of its life there was an ashen blue hue to the ears, reminding one of poisons producing methemoglobin, loss of pupillary contraction and slight trismus of the jaw. The temperature taken on the day of its death was 21° C. and there was a diazo of Ehrlich reaction in the urine, while the animal remained in a state of stupor. Five hours after death an autopsy was performed upon it with the following results: Peritoneum, covered with white patches and serous exudate upon parietal and visceral layers. Intestines, hyperemic but no evidence of any ulcerations. Kidneys, enlarged, pyramids very much engorged with blood. Cortex, normal. Spleen, much enlarged and also engorged with blood.

Experiment II.—One liter of pure culture of typhoid bacilli, unfiltered, was subjected to the Brieger process, but the process of purification was carried a little further as suggested by him: after the final removal of mercury in the former process, the solution was evaporated to a syrup, extracted once more with alcohol, the alcohol driven off, the residue taken up with water, the acid neutralized with soda, acidified with nitric acid and the whole treated with phosphomolybdic acid. This precipitate, composed of the double compound with the acid, was now washed, decomposed with neutral lead acetate, the lead removed, and the solution somewhat concentrated. In this was found the toxins, since the solution was absolutely free from protein substance, but still gave precipitates with the following alkaloidal reagents:

Gold chlorid, yellow, six-sided plates with some longer narrow plates which still maintained the pointed ends, thus preserving the general six-sided shape; platinum chlorid, needle-shaped crystals, arranged in a more or less definite sheaf-shaped form. Potash bis. iodat, amorphous precipitate. Potash cadmium iodat, amorphous precipitate. For want of sufficient material, no attempt was made to inject this product into an animal.

Experiment III.—One liter of diphtheria bacteria culture, grown for two weeks and filtered through porcelain, was treated by Brieger's method. The isolated product showed no reaction with Millon's reagent, gave no xantho-proteic reaction and failed to respond to the biuret and Adamkiewitcz tests, thus proving that it was absolutely free from protein matter. It gave, however, the following reactions: Phosphotungstic acid, heavy, copious, white precipitate; phosphomolybdic acid, heavy, granular precipitate; platinum chlorid, fine, granular precipitate. Allowed to evaporate over sulphuric acid, this substance crystallized in long flat plates of a slightly yellowish color, of which the amount obtained was .1486 grams.

May 10th, .025 grams were injected into a kitten weighing 652.5 grams without any appreciable effect. May 11th, .040 grams were injected into the same kitten, and the following symptoms came on almost immediately: There was general uneasiness, accompanied by salivation. On May 18th, in hopes that this toxin might prove efficacious in rendering the kitten immune, it was inoculated with a pure culture of the Klebs-Loeffler bacillus and a control kitten that we will call No. 2 was also inoculated with the pure culture, but not with the toxin.

Kitten No. 1, inoculated with both toxin and pure culture, died May 28th, after ten days of illness, characterized by great muscular weakness, but no paralysis. The autopsy showed a purulent infection with a few streptococci. The liver showed areas of hemorrhagic infarction and was slightly fatty. The mesenteric arteries were highly injected but otherwise the organs were normal. The control kitten, No. 2, died May 25th, having had during the meantime loss of voice, accompanied by great muscular weakness, paralysis of the lower extremities followed by paralysis of the upper, and great emaciation. There was also a discharge of dark blood from the nostrils. The autopsy showed the mesenteric arteries highly injected, the bladder full of urine

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which contained albumin. The kidneys enlarged, injected glomeruli with areas of coagulative necrosis; the external surface was roughened. Liver pale with some fatty degeneration. No membrane of fauces or trachea.

Experiment IV.—One liter of a culture of diphtheria bacilli, filtered as before through porcelain, was treated by the Stas Otto method, using hydrochloric acid instead of the usual tartaric acid. The results were as follows: (1) The ether from the acid solution spontaneously evaporated gave .0024 grams of needle-shaped crystals. (2) Ether from the alkaline solution (NaOH) gave .0085 grams of plate-like crystals. (3) Ether from the ammonium chlorid solution gave nothing.

A third kitten was injected with the products of the first evaporation (1) with the almost immediate onset of symptoms which consisted of dilatation of the pupils, unaffected by light, paralysis of the lower limbs and a great acceleration of the respiration, but after an hour's duration the symptoms ceased and the kitten fully recovered. The residue from the second ethereal extract produced no effect, when injected.

Experiment V.—A liter of filtered diphtheria culture was precipitated by ammonium sulphat, the precipitate dissolved in a little water and dialysed twice to remove the salt. The resulting solution was precipitated with 95 per cent. alcohol and the precipitate washed with absolute alcohol and ether, then dried over sulphuric acid. The resulting product was a brownish powder, soluble in water, giving the following reactions:

Phosphotungstic acid, yellow precipitate; biuret, positive; Millon's reagent, positive; xanthoproteic test, positive.

Kitten No. 5 was injected, June 30th, with .100 grams of this toxic albumose. July 7th, with .200 grams and July 11th, with .400 grams. The chief symptoms were paralysis of the limbs and great irregularity of the respiration. The urine contained albumin and casts. The animal died July 12th, and the autopsy showed necrotic spots in the liver, lungs and speen.

Experiment VI.—One liter filtered diphtheria culture was treated by the Brieger method. The resulting substance consisted of long, flat, yellow crystals. The crystals were soluble in water and in solution showed the following reactions:

Biuret, faint rose; Millon's reagent, negative; exantho-proteic, negative; Adamkiewicz, negative; platinum chlorid, fine gran. precipitate; auric chlorid, heavy precipitate; mercuric bichlorid, heavy precipitate; phosphotungstic acid, copious precipitate; phosphomolybdic acid, copious precipitate; iodo-potass. iodid, fine gran. precipitate; potass. mecur. iodid, heavy precipitate; potass. bis. iodid, heavy precipitate; potass. cad. iodid, heavy precipitate; stannous chlorid, no precipitate; picric acid, no precipitate; tannic acid, no precipitate.

There was then injected into a rabbit .100 grams and there followed symptoms of restlessness and salivation. This continued until the next day, but the animal finally recovered. Whether these toxins replace the sulphur in the albumin molecule or not cannot be absolutely stated, but as albumose, of which the cultures largely consist, is never free from sulphur, it is to be doubted. It seems much more reasonable to regard them as proteids much like casein with its associated iron, corresponding to the toxin. As the cutures uncoagulated by heat, even in an acid solution, but are precipitated by ammonium sulphat, it is much more probable that they consist of albumose to which the toxins are bound much in the same way that the iron or phosphorus is bound in caseose or the digested casein. Another fact is also evident, that these toxins are much less stable than indol, skatol and phenol, analogous substances formed by the bacteria in the intestinal tract, but which can be easily separated from the feces by distillation, a process which utterly fails to procure anything from the cultures of pathogenic microbes. Heat is undoubtedly the great factor in this case. These experiments show also that they are much more tenacious than the ordinary alkaloids in their adherence to the substance with which they are combined since the Stas Otto process, used in one case, is amply sufficient to isolate practically the whole of the alkaloid in the one case while the amount of the toxin obtained was very slight.

A more intimate knowledge of these toxins is always obstructed by the tiny amount which can be obtained; under the most favorable circumstances only about 0.2 grams can be obtained from a liter of the cultures. Brieger has tried to overcome this by using enormous quantities for his extractions, but apart from the difficulties of manipulating such huge amounts, there is always a doubt whether we have actually obtained the true active principle when we know that one bad oyster may kill a human being or diphtheria be fatal in three days. We have, of course, the possibility that the bacteria produce their toxins much more abundantly in the living body than in culture media, that they grow with greater rapidity is very doubtful.

It seems almost beyond cavil that the substance which we obtain is actually the element which causes the changes in living tissue in disease from the similarity of symptoms observed, paralysis chiefly in the diphtheria toxin, and comatose condition in the typhoid toxin. The primary action of these bodies is evidently upon nerve centers of respiration anl locomotion, the secondary or more remote action upon the liver and kidneys or organs employed in the elemination of these poisons. Our efforts to stay the progress of disease by preliminary injection of the extracted toxin in gradual increasing doses seems to have failed, although the disease in Experiment III. ran a different course in the animal injected with both the toxin and the culture, from that in the animal injected with the culture alone. The pathological changes were also somewhat different, but these may have been only accidental.

In closing, we beg to say that we have worked

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over old chaff, and have nothing new to offer, but still remain convinced that the road to new discoveries in medicine lies along this line, and still following up this pursuit, we hope to overcome the difficulties associated with this isolation of toxins so that the amount may be much larger or the potency much greater.

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ALCOHOL AS A GENERAL STIMULANT AND HEART TONIC; ITS USE TO THE ANIMAL ECONOMY IN HEALTH AND DISEASE.[1]

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(Continued from p. 452.)

Alcohol in Acute Disease.—One of five causes always contributes to the failure of alcohol in the sick room to-day, namely, to begin its use too early or too late; to give too large or too small a dose, or to be irregular in its use. Almost always one or more of these causes is the prime factor in its failure to accomplish the purpose for which it was given; then, again, to entrust its use to an incompetent nurse is another fruitful source of failure. The truth is, at the critical time, the physician alone must be the sole judge of the amount to be given, and this amount must be regulated by the effect produced; at the supreme moment he must be on the ground and on the firing line to take personal command as watchman and guardian of the interests of his patient if he is to hope for success. By directing the battle from his office and trusting to excited and inefficient subordinates, his efforts will fail as they have failed, and to-morrow he will contribute an article to a journal of hygiene and moral therapeutics as full of inaccuracies and bad judgment as was his treatment of the dead man who so recently passed from his charge.

In pneumonia there may come a time when a quick and ready stimulant will tide the heart over a crisis, when convalescence is easily established. When digestion is good and heart action satisfactory for the lung area involved, the temperature will generally take care of itself without antipyretics, and in most cases will be found to range from 101° to 104° F. In a case of this kind, temperature has not a world of importance and never has, as long as the heart remains true, firm and strong, and from 90 to 104 at the wrist. This case will get well on beef extracts and milk; it needs no stimulation other than the normal supply which a reasonable digestion can afford. In typhoïd, following the beaten track—a typical case—when the subject is young and stomach faithful, with a temperature curve following the course characteristic of this disease, from beginning to end no alcoholic stimulant is needed. In diphtheria, although the system may be profoundly affected by the poison, with temperature high or low, if the patient has good digestion, and he may have, he will pull through without alcohol.

The prime factor in all these cases seems to be the stomach, not the disease. The cases which demand alcohol and which will result fatally without its intelligent use are those of pneumonia in which the heart has done excellent work for five days and a half; when it did this work in spite of a persistent high temperature (104°-105.5° F.); when there is considerable lung involvement and cerebral symptoms attended with low delirium. At this stage the stomach has lost its desire for food and the heart begins to weaken. It will be observed the heart follows very closely in the footsteps of the stomach. Now, if this heart could be kept up to its work and pump the blood as usual through the lungs for twelve hours more, the crisis would be reached and could be passed in safety, but how can this be done, as we see the stomach in rebellion, refusing to digest anything. At this time there is a loathing for all kinds of food; the abdomen is tense and tumid from flatus that cannot be expelled, because the muscular layer of the bowel is paralyzed. Evidences of dissolution are beginning to be apparent on every hand, cold perspiration, feeble, rapid pulse and a general "moribundness," with areas of hyperesthesia. If something would be now administered that would quickly pass through the walls of the stomach and reach the circulation without preliminary digestion, and if that something contained the elements of food, or, by its transformation in the tissues liberated energy held in reserve, it would save the jaded heart which has now all but stopped by supplying it with power to enable it to continue its work for the ten or twelve hours when relief is sure to come, and nature again swing her own pendulum. Have we that something at our command at this supreme moment? We have, but the physician in charge is afraid to touch it in the fear that if his patient gets well he may become addicted to the drinking habit; besides, he does not believe in intoxicants any way and was grieved to see his patient drunk six months previous. On that occasion it was on the anniversary of his wooden wedding, after which he was sick and his physician remonstrated on the evil of intemperance and commanded him to put the bottle away, which he did. He was right then; he is wrong now. Then the whiskey was a depressant and a paralyzer—a poison—now it will act as a powerful tonic, food and a liberator of pent up force.

The physician is trying every known remedy to save his patient, but he is sinking rapidly. Digitalin, nitroglycerin and strychnine are in turn tried, but they all fail as they only whip a jaded

[1] Read at the 16th Annual Meeting of The New York State Medical Association, held October 24, 1899.

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horse; he wants food rather than a whip and none of them can supply it. The physician sees death in the face of his patient, apprises the family of his fears and suggests that a clergyman be called, recommends the inhalation of oxygen gas as a final resort, says a few kind words to the family about a reunion in Heaven, and takes leave of his patient forever. A member of the family has heard of a case of pneumonia successfully treated by the timely use of alcohol; he was afraid to mention this fact to the physician, knowing his antipathy to the stuff; now that he has taken his departure, he runs after the man of whom he has heard so favorably. This physician administers one tablespoonful of old whiskey in preference to brandy (the latter having higher diffusion power, reaches the brain too quickly and is contraindicated) mixed with two tablespoonfuls of water and a little cracked ice. The dying man's stomach retains it; his heart beats 138 to the minute, full and feeble and somewhat irregular at the wrist. Part of his body is bathed in a clammy perspiration, his tongue is thick, his feet are cold, his face is pale and his eyes sunk. Ten minutes and the physician with finger on pulse gives another tablespoonful of rye with now only an equal quantity of water and ice as before. It is retained, as was the previous dose. It has no bad effect on the pulse, if anything it has improved it, so after five minutes he is encouraged to give another tablespoonful as before. He recollects that now during fifteen minutes he has given the sick man an ounce and a half of whiskey, and his condition has improved decidedly since he began the treatment, for the heart-beat is more regular and the pulse not so quick at the wrist.

His curiosity is now agreeably excited and he places his ear to the dying man's heart to find increased uniformity in strength. Sixteen minutes have elapsed since he first began the rye whiskey treatment: the pulse then was 138, now it is only 128 and firmer. He will give another tablespoonful and does as before, diluting it and with ice. Now eighteen minutes have elapsed, during which time the sick man has imbibed two ounces of whiskey. In two minutes he tries the pulse again; it is 123, firmer still and more regular, although not so full, but with higher tension. Now, he is eager to communicate the fact to the distracted family in an adjoining room, and it is that he feels encouraged and has a hope of the final recovery of his patient. An hour has passed since he began his stimulation with whiskey, which consisted of three ounces, but great changes have taken place during that hour; the patient's feet are not so cold; he speaks more coherently; the perspiration is drying up, color is coming back to his face and there is a new light in his eyes. His temperature is again taken; it is 102° F.; it was 104° F. one hour ago; his pulse is now 118, with a promise of more stability.

The physician is tired from his worry and vigil, but he is determined to give the sick man another dose of rye before he leaves for home, having now been by the bedside two hours. This time he gives him another ounce of whiskey—two tablespoonfuls, with an equal quantity of water, but no ice, with the request that he sip it slowly, to eat it, as it were. On taking leave of the family—and it is a pleasant leave-taking—he tries the pulse again; it is 114, increasing in force and beating with regularity. The man is beginning to have possession of his faculties as he grasps the physician's hand to bid him good-night as he retires from the room. To the nurse the retiring physician says, "Give two ounces of light bouillon, not too hot, every thirty minutes until my return, in four hours, and if the pulse runs above 120, immediately summon me. According to promise he comes at the stipulated time, and is told that the patient slept soundly for two hours after the second dose of bouillon. The physician was quick to recognize a decided improvement; the temperature is now 99° F., the pulse 102, and the patient convalescing.

Alcohol in Chronic Disease.—When the human system is the subject of an organic lesion like fibroid, or tuberculous phthisis, there is a demand for fats. Substances, which when taken into the system, are easy of digestion and contain material out of which this fat is manufactured in the internal economy, are what is wanted and what must be supplied if the body condition is to be improved. Malted liquors are known to be substances of this class and lend great aid to the physician in his efforts to restore his patient to health. It is also known that the parasite with which the lung is invaded is living on diseased tissues—any other would speedily destroy it; the bacillus has not created the condition in the lungs, but has used the diseased tissue as a means of support and to propagate itself. It is possible with such a state of things that the parasite will devour and exhaust the media in which it lives; this can be accomplished only through an increased nutrition, and anything that will increase this nutrition must be looked on as a therapeutic agent of the highest importance.

Certain wines and the malted liquors are rich in saccharine matter and are as a rule acceptable to the stomach and easy of digestion. The alcohol which they contain needs no digestion; it is the herald which prepares the way and tones the stomach for the more substantial ingredients in the malted liquors, of which it is a part. Both, together, initiate a body condition that is favorable for the reception of other foods, such as broths and many forms of farinaceous and albuminous substances. In a disease like phthisis, the alcohol compounds, such as porter, ale and beer, are of great value if properly and efficiently administered, and must not be confounded with their disagreeable and disastrous effects when given to a healthy man whose system is already saturated with the material they have to offer, namely, carbonaceous and albuminous proteids. In the latter case they do harm, and, if persisted in, present all the pathological changes that are ascribed to chronic alcohol poisoning.

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The difference between the sick man and the well man is most striking; the former is prepared physiologically to use up and turn to immediate account all the nutritive material that is in his simple or compound alcoholic beverage, while the latter is unconsciously, but not the less surely, destroying himself; he is giving his stomach double work, besides overworking his liver and kidneys in an effort to throw off the superabundance of material with which his blood is charged. This man cannot oxidize half an ounce of alcohol in twelve hours, whereas the other man can burn up four ounces in half that time. The conditions are different; one man's system is prepared to receive a form of food already digested and not any other; the other man's system is already saturated and repels, rather than attracts, the hydrocarbon material that is now offered already digested and under favorable conditions ready to give up its nutritive qualities to enrich the blood and nourish the tissues.

At a time of shock strychnine probably is more efficient than alcohol, as it has greater oxidizing power. It increases metabolism, as can be seen from its great output of carbonic acid. Nitroglycerin has a very limited application, and in the hands of ignorant practitioners does great harm, administering it as they do under the delusion that it is a heart tonic, while, in fact, it is a depressant and can only aid the heart when the vascular tension is high by lessening resistance to the systole. Digitalis and strophanthus each has its measure of usefulness, but neither can be strictly said to be a heart tonic and at times both do much harm, especially if the heart is not enlarged but feeble with considerable vascular resistance. The administration of oxygen is sometimes useful and often injurious, especially if its application is left to the discretion of an inferior nurse. After looking over the list of so-called heart tonics, not one of them can be said to act as such, with a single exception, that of nux vomica and then its field of usefulness is confined within very narrow limits, while alcohol must take its place with the natural stimulants, food, rest and oxygen.

Conclusion.—Never give alcohol in lingering diseases nor in convalescence from acute diseases if it irritates or upsets the stomach. The stomach is the clearing-house of the human system and it is of the first importance that it should always be in a position to transact business. Alcohol furnishes the grist for the police court and distributes free passes to the Island; it often makes a low form of sneak thief, but never a high-class burglar. Burglars, sneak thieves and murderers are, as a rule, temperance men; their vocation demands that such should be the case.

Alcohol is not so potent for good at a crisis to old topers suffering from acute or chronic disease, their systems do not respond readily to the stimulation and it is slow to produce the desired effect. In a subject of this kind, the alcohol is not so readily assimilated nor so completely oxidized as in those unaccustomed, or only moderately accustomed, to its use. The good effect of alcohol in these cases is always in the inverse ratio to the quantity consumed by the individual in time anteceding his indisposition.

Alcohol may be a poison to-day, in dose great or small; to-morrow, to the same man, it may be a physiological agent of the highest efficiency. The intelligent individual, through the guidance of his medical adviser, should be at all times and under all circumstances the judge of the time and quantity to produce a definite result. Alcohol is not an aid to longevity, although if used moderately it is not a hindrance; however, it may be said that, as a rule, those live longest who do not use it other than for its physiological effect. Never drink whiskey in hot weather with the ostensible purpose of cooling off; such a purpose is laudable, but the means employed will prove inefficient and illusive, as the quantity that would reduce temperature half a degree will have a disastrous effect in another direction. Never drink alcohol on starting on a journey, whether that journey be by riding or afoot; it is like filling the pockets with cobble-stones, under the delusion that they assist locomotion; it steadily retards progress, puts the body on the defensive, and continually makes demand for repetition of the alcohol. The alcohol thus imbibed by this constant repetition lowers the temperature, exhausts the body, and in every instance defeats the purpose for which it is taken. One-fourth of the chronic and about one-fifth of the acute diseases among the populace of to-day can be directly traced to this source. Alcohol has the power, physiologically, to raise or lower the temperature; it can do the same thing through pathological processes. It raises the temperature through its properties as a stimulant and tonic and by its virtue as a food. It lowers temperature by its inhibition on the oxidizing apparatus during the process of the transformation of fatty and carbonaceous products into heat, and is a conservator of energy and source of economy to the body.

Pathologically, alcohol raises the temperature by deranging the heat distribution apparatus, irritating the vasomotor inhibiting supply of the peripheral arterioles, effectually shutting off insensible perspiration, and producing a dry, burning skin and a thin, rapid pulse. This condition is described as sunstroke and can take place without the aid of alcohol, but the best specimens are furnished by the assistance of this drug. Alcohol lowers temperature by its direct paralyzing effect on the vascular filaments of the sympathetic, widely dilating the peripheral arterioles and retarding the venous return from the body surface.

Never drink whiskey before delivering a temperance lecture or preaching a sermon; it will develop ideas but cannot formulate them; it will loosen the tongue and increase loquacity, but it will impair the reasoning powers and weaken the judgment.

Whiskey is a necessity to some people after a great mental or physical effort, as the brain-cells

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are exhausted and functionate with difficulty. Alcohol jumps through the walls of the stomach, mounts the circulation, enriches the blood and nourishes the famished and exhausted nerve-cells; it does this in four minutes; it takes beef-tea twenty minutes, or, if conditions are not favorable, twice as long, and then it cannot do it half as well as the alcohol. Tea or coffee may fail altogether, but, even if coffee presents its maximum of efficiency physiologically, it is feeble when compared with the action of alcohol. Tea and coffee, by virtue of their action on the brain and cord as excitants, can only stimulate, but stimulation now is contraindicated; what is wanted is a nutritive tonic with basic sedative properties, and that is just what alcohol can furnish.

Never drink alcohol after eating; it cannot aid digestion, and what cannot aid must retard by its weight and bulk; further, it precipitates the digestive ferments, coagulates the albuminoids, and often completely arrests the digestive process. Alcohol or the malted liquors may, and often do, assist digestion when used before eating: by stimulating the gastric glands they excite healthy action in the stomach and favor assimilation. Alcohol's highest value as an aid to digestion is seen about three and a half hours after dinner if fats have formed any part of the repast. Fatty acids are then lingering in the stomach; they refuse to pass through the pyloric orifice, or, if they do, they do it so reluctantly that eructations of acid gas are belched through the mouth and nose. This condition is sometimes described as pyrosis and often occasions much inconvenience. Two ounces and a half of good whiskey, diluted with an equal quantity of water, has a value that no other agent possesses and in this instance it acts purely as a drug, for, by saponifying the fats it destroys the gases, it cleanses the stomach and aids intestinal digestion. At this time the alcohol has no toxic effect, being neutralized by the fatty acids before it can pass through the mucous membrane of the stomach.

A half a pint of whiskey or brandy taken in a draught to-day will save a life; to-morrow the same amount will destroy the life that it saved yesterday, because different conditions prevail. Alcohol destroys the walls of the stomach only after long use and when taken in a concentrated form. There is no truth in the statement so generally made that alcohol suddenly transforms an angelic man into a demon; it has no such power; it is only a revealer of character. If a man is a bad man, alcohol will make him worse; if a kind man, it will make him kinder; it seldom changes one's nature, except through the pathological processes that its long-continued use produces on the brain.

Alcohol creates nothing in the domain of mind, but it can pursue and seize a train of thought far beyond the grasp of the faculties when not excited by its action: it is the bloodhound which pursues a trail through the trackless waste, makes its circuit of the convolutions, and, in some manner not given to mortal man to know, quickens and facilitates thought. It cannot formulate and systematize this thought that it has excavated from the depths of the convolutions, as the ideas crowd so rapidly and refuse to crystallize. The line of thought which it pursues is an interrupted current with volume and intensity varying with the individual man. The senses are actively alive to the influence of alcohol and scintillate and flash, for the flame of life burns brightly and mental exaltation is high. Any surplus of alcohol taken into the system, that is not immediately burned up in the chemical laboratory of the body and transformed into some mode of motion, such as heat or force, must be injurious and act as an irritant to the stomach and as a depressant to the brain-cells. If the quantity is small this action may not be perceptible, but it is sure to increase in proportion to the quantity ingested.

The amount of alcohol to be consumed by an individual depends on the demand made on the vital forces and the resisting power of the individual; at one time it may be one dram, at another time eight ounces; it is a question of demand and supply and must not be confounded with supply and demand, something which is too often done.

Alcohol is a form of food already digested, but it is not adapted to the normal wants of the body and is only indicated at a time and under conditions which render the digestion and assimilation of other foods impossible. Alcohol has a place on the sideboard and it must have a place in the sick-room, as do opium, quinine, and digitalis, until we discover another agent more efficient and able to supplant it by virtue of its availability, and physiological action. No such agent, however, has yet been discovered (the opinions of others to the contrary notwithstanding). Not one of the drugs mentioned can take the other's place but alcohol, yet each is valuable in its own place at a given time to serve a definite purpose.

51 Charlton Street.

THE TREATMENT OF WHOOPING-COUGH.[1]

BY HENRY COGGESHALL, M.D.,
OF NEW YORK.

MY paper is not properly named the treatment of whooping-cough. It is rather a suggestion for the treatment of some cases of whooping-cough, when the disease is particularly severe and in cases occurring later than in early infancy.

I had an opportunity, in 1883 and again in 1886, to observe epidemics of whooping-cough in the New York Infant Asylum. There was a large number of cases, the disease being almost universal in an institution which held more than three hundred children. The impressions I have now are that no particular treatment of the many used was of much avail and that the disease was of very painful and serious character in institu-

[1] Read before the Harvard Medical Society of New York, February 24, 1900.

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tions at least. The treatment of the bronchitis, or what was called bronchitis, seemed to be of the greater importance and to that more attention was directed. There was always some remedy, new or old, for the whooping-cough itself, but after an enthusiastic start and a hopeful period there came discouragement. Jacobi now advocates belladonna in full doses, sufficient to get the physiological effect of the drug. Holt gives generous doses of antipyrin every two or three hours. About five years ago I treated a child's nose and throat for some symptoms, which I do not now remember. The mother told me afterward that it had entirely stopped his paroxysms of whooping-cough. I had not known before this that the child had the disease. In this instance the whooping-cough was in a later stage and it would be impossible to say whether the treatment put an end to such a cough as may go on for months after whooping-cough or really shortened the disease itself. That it had some effect is apparent.

Jacobi and Holt refer to treatment of the nose in whooping-cough by insufflation of powders, but neither has seen the benefits claimed.

Schadewald of Berlin, in 1881, gave the name of trigeminus cough to cough arising from what he believed to be an altered reflex irritability of branches of the trigeminus.

Sommerbrodt, in 1884, quotes Hack: "Certain signs seem to me to point to the fact that in some cases of whooping-cough the attacks may start from the nasal mucous membrane." He promises later work and makes this statement merely as a preliminary. Following the suggestion, Sommerbrodt treated a case by using the galvanocautery on the anterior ends of both lower turbinates. There was a temporary benefit, no cough for eight days and then a recurrence. The treatment was on the thirteenth day of the disease. In 1885 Schadewald said that the relation of whooping-cough to trigeminal neuroses was not determined.

Wille of Berlin, Schadewald's assistant in 1886, said: "The treatment after this supposition (that whooping-cough is due to altered reflex irritability of branches of the trigeminus) does not make it clear; sometimes improvement follows, at other times there is absolutely no result." Michael of Hamburg, in 1886, reported fifty cases treated by insufflation of various powders into the nose. He gives the preference to quinine and benzoic acid. He claims about 14 per cent. of recoveries and improvement in 80 odd per cent. of the cases. The cases are difficult to analyze. No one else, I think, found good results and the treatment appears discredited.

The treatment I have to suggest is to first cocainize as much of the nasal mucous membrane as can be done by the use of a spray, followed by cotton-tipped probes wet with the solution, then an application of a two- or a four-per-cent. solution of nitrate of silver to the nose and nasopharynx, to be followed by a mild alkaline and antiseptic wash by spray or by postnasal douching. Such treatment could hardly be carried out in infants, but with children of three years or more it is perfectly practicable. The interest is, however, to know more of the cause of the cough, when means may be found to control or modify it. The good effect of belladonna is, I think, partly due to its action on the nasal mucous membrane. I want to suggest here the use of suprarenal extract applied to the nasal mucous membrane.

Most of the efforts in treating the nose have been to destroy the germs of the disease, which I do not think to be the thing of chief importance. The four cases I have seen and treated include but one with which I could be satisfied. I mean with the stage of the disease at which it was seen, with the careful observation and record of the paroxysms, and with the result. This was in a child of six years, of very intelligent parents. Severe whooping-cough in its sixteenth day. Since four days the paroxysms have been very severe; they number thirty a day. The child vomits after each coughing-spell. After the treatment the cough ceased entirely for twenty-four hours. Then followed two to six paroxysms a day for seven days, when I treated her a second time. I would have chosen to have treated her before. After the second treatment there was not any cough for a day and a half. Four days following the second treatment I treated her a third time, after which the cough stopped. In two of the other cases the disease was in a late stage but the treatment appeared very successful. In the remaining case the disease was apparently aborted in the first two days.

102 East 57 Street.

CLINICAL LECTURE.

A CASE OF PNEUMOHYDROTHORAX WITH GREAT PERMANENT DISPLACEMENT OF THE HEART.[1]

BY CHARLES ROSS JACKSON, M.D.,

OF NEW YORK;

ASSISTANT IN GENERAL MEDICINE AND DISEASES OF THE CHEST IN THE NEW YORK POLYCLINIC.

THIS young man, seventeen years of age, is much emaciated, and has an expression of long-continued suffering. His respiration is 42. There are suppurating glands at the angle of the jaw. His chest is extremely thin-walled and the respiratory movement is largely confined to the right side. Inspection shows that the cardiac apex impulse is absent from the left side, but that in the right fifth intercostal space it is present in the nipple line. Above, in the fourth and third spaces the impulse is also marked; and extends nearly to the nipple line in these spaces and to within about one quarter of an inch of the right sternal border. Furthermore, we are able to determine that the cardiac systole is 110 per minute. Men-

[1] Abstract from a clinical lecture delivered at the New York Polyclinic Medical School and Hospital.

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suration shows the left side to be very slightly fuller than the right, the difference being only one-half inch at the xyphoid level.

Palpation shows that vocal fremitus is diminished or absent in all localities except in the infraclavicular and suprascapular portions of both sides, in which areas it is distinctly exaggerated. Although diminished it is easily detected elsewhere on the right side, but in a considerable area on the left side it is extremely feeble, while below, posteriorly and laterally, it is absent. The heart is located as by inspection and the systole is found to be fairly strong.

Percussion reveals a dull area corresponding to the heart as previously located. It is conical in shape, having the apex downward in the fifth space, the base upward and to the left. Dulness extends almost from the nipple line to about the right sternal border and upward to the third space. It is a larger area of absolute dulness than one finds over the normal heart in its proper location, and it is also of different shape. It must be remembered that if the heart is displaced the area of dulness will largely depend upon the extent of change in position and presenting portion of the heart. To reach this position there must be considerable rotation of the heart on its fixed tether, the inferior vena cava below and the large blood-vessels above. Bearing this in mind one must as yet reserve opinion as to whether enlargement with displacement or simple displacement, congenital or acquired, exists. Percussion further reveals considerable dulness posteriorly and anteriorly in the apex region of both lungs, bearing out the evidences of consolidation afforded by the increased vocal fremitus. Elsewhere, over the right side, the percussion note is rather high pitched and of tympanitic quality, a vesicular tympanitic or band-box resonance. On the left side, below the dull area already mentioned, a very markedly tympanitic note is heard. This tympany extends all over the left chest down to an area of absolute dulness laterally and posteriorly. This dulness below is limited and, as is demonstrable now, is altered by change of position in the patient, it is not extensive and depends, of course, upon a limited amount of fluid. The liver and spleen are found on percussion to be in their proper positions.

Auscultation shows the breath sounds at the apex of the *left* lung to be tubular; there is no vesicular element. Harsh breathing is very noticeable and is audible over a limited anterior and posterior area. Vocal resonance is here markedly increased and expiration is much prolonged. Elsewhere over the left chest no breath sounds are audible. Vocal resonance is extremely feeble in the mammary region and entirely absent below. At the right apex there is harsh breathing and prolonged, high-pitched expiration. Here one may detect an abundance of subcrepitant râles. Vocal resonance is here increased, but in other portions of the right lung is less than normal. Auscultation further continued over this lung area reveals a modified vesicular murmur with prolonged expiration. On the lateral and anterior aspect of the *left* side of the chest from the third to the fifth space a perfect metallic tinkle may be heard. This tinkle is not constant, but three or four bell-like notes are heard, then a pause, succeeded by more tinkles. Following each tinkle is a metallic resonance which is quite pronounced, a metallic echo, in fact. Of course, these tinkles and the metallic echo denote a space with hard, resonant walls and the presence of air and liquid. It is a matter of speculation as to whether the tinkle is due to a drop striking a surface of liquid or to a bubble rising through such a medium and causing the tinkle by its bursting. There are several theories advanced in addition to these two chief ones. At any rate, in this case you will notice that change from the upright to the reclining position brings out a perfect shower of tinkles. These and the metallic resonance following each form, when combined, the rarest of auscultatory phenomena. Shaking the patient with the ear to the chest brings out a splashing sound of distinctly metallic quality.

The extreme tympany and great diminution of vocal resonance and vocal fremitus with the absence of vesicular murmur below the *left* apex region proves pneumothorax on this side, and we may assume that the solidification of this lung above is due partly to collapse. Below this tympanitic area we have already proved that liquid is present. On the right side the evidence of solidification of the apex is positive, and when taken in conjunction with the subcrepitant râles points to tuberculosis. The changed vesicular murmur and the diminished vocal fremitus and resonance, together with the abnormal percussion note, vesiculotympanitic, prove the *right* lower lobes subject to vicarious emphysema.

The heart has been permanently fixed by adhesions after great displacement to the right. This displacement has been caused by a previous pleurisy, the evidence of which we still have. The heart sounds are rapid, but normal when due allowance has been made for change in position. We may regard it as free from enlargement, and may attribute its somewhat large area of absolute dulness to the displacement. The small râles in the right apex, the cough, great emaciation and suppurating glands of the neck all point to tuberculosis as the cause of the patient's condition. This is the usual factor in these cases, pneumothorax being commonly due to a perforation of the pleura by tubercular ulceration.

During the first days of observation the case showed an afternoon rise of temperature, which has since disappeared. The treatment has consisted of increasing doses of creosote and general tonics, including large doses of nux vomica, under which, with occasional attention to the cough itself by codeine or heroin, the patient's condition has improved considerably. It has not been deemed advisable to operate for the small amount of effusion, which has not increased since the first observation.

The past history of the case is of a pain in the

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chest, which began about a year ago and became chronic and was followed by an attack of acute severity. It was during this period, doubtless, that the perforation occurred and pneumothorax developed. The general condition was becoming daily worse until the creosote and tonics were given, but under their use the symptoms have been ameliorated. The ultimate prognosis is, of course, most unfavorable in a case showing such marked systemic invasion and which was not treated until the disease was already advanced.

29 West 106th street.

MEDICAL PROGRESS.

Prophylaxis and Treatment of Gonorrhea.—The internal use of drugs is not usually supposed to have much local effect on a gonorrhea in its acute stage, but after considerable experience J. A. O'Neill (*Med. Record,* March 24, 1900) reports most favorably upon the use of methylene blue. It is best used in gelatin capsules, in one grain doses four times per day for three or four days. In this way a cleanly and complete urethral irrigation is maintained. The urine impregnated with the blue not only thoroughly kills the germ, but also carries away all purulent discharges. Troublesome gastric symptoms may be avoided by the use of the following formula, which has been found to be most efficacious: Methylene blue, gr. i; oil of nutmeg, gtt. i; oil of sandalwood, gtt. ii. This capsule may be given three or four times daily for four days, but should then be given twice per day, and usually is not required after eight or ten days. It is also probable that methylene blue will act as a prophylactic against gonorrheal infection after dangerous intercourse.

Eructation, Regurgitation and Rumination.—Although these conditions may be associated with organic lesions of the stomach, they are usually the result of functional disturbances or are "habit neuroses," and it is this latter phase which is reviewed by H. W. Lincoln (*N. Y. Med. Jour.,* March 24, 1900). Eructation consists, at first, of the belching of gas; later, of air which has been previously swallowed. No doubt, at first, there was more or less gaseous distention, and as eructation brought relief the habit was formed. There may also be esophageal eructation, in which the air never reaches the stomach. In treatment, suggestion is all important. The patient must make every effort to suppress belching. Bromides may sometimes be of aid. Regurgitation usually comes on during the stage of digestion, especially just at the close of a meal. If it comes on later the taste varies; an hour after eating the taste is sour, due to butyric or lactic acid, or intensely sour and corroding due to hydrochloric acid, or perhaps bitter, due to peptones. It is believed by the author that atony is a prominent factor in these cases. It occurs, of course, in stagnation, cancerous conditions, etc., but the malady is usually of a nervous origin. The patient should always be forced to swallow the food again as fast as regurgitated, and to eat always in company and slowly. The diet should be arranged according to the gastric secretion and should be light and nutritious. Electricity externally and internally may do good. Small ice pellets are recommended by Alt. Rumination is more rare and may be continued for years with impunity. Heredity, custom and irritation stand preeminent as causative factors. It is a motor dynamic affection of the stomach, occurring among all classes, frequently among idiots and the insane. It is confined to the period of digestion and not accompanied by any symptoms of discomfort. The chemical condition varies from achylic to hyperchloridic. The treatment for regurgitation given above should be strictly enforced, and the patient should be warned against the contraction of the abdominal muscles. A good idea is to administer at meal-times some extremely bitter preparation, as quinine or a combination of condurango, quassia, gentian, nux vomica and capsicum. A patient usually hesitates before regurgitating this mixture a second time.

Rectal Prolapse in Children.—C. G. Cumston (*Annals of Surgery,* March, 1900) believes that one of the most important causes of prolapse of the rectum in young children is infection, causing inflammatory changes in the gut-wall with consequent loss of tone. Coughing, straining at stool, etc., then easily cause prolapse. In older individuals polypi, ulcers, piles, etc., lead to prolapse. The prolapsed portion varies in size and shape, usually shows the gut-lumen at its apex, and has a sulcus at the anal margin. It is very important to remember that peritoneum may be pulled down by the prolapsed gut, especially in front, and that small intestine may descend into this peritoneal pouch. Clinically, one cannot diagnosticate the presence of the peritoneal pouch, but must be guided by the extent of prolapse and the known anatomical relations of peritoneum to rectum. When small intestine is present in the peritoneal pouch, the anterior part of the prolapse is more prominent, the lumen at the apex points backward, and the small intestine may be reduced with a gurgle. The prolapse may be reducible, irreducible, incarcerated, or strangulated. The prognosis is never serious. Most cases, in children, yield readily to early medical treatment, a rubber rectal plug, cleanliness, and tonics. Polypus, piles, etc., should be cured. When these means fail, longitudinal cauterization through the mucous membrane often succeeds. In chronic cases, irreducible, or strangulated cases, operation must be done. Of the various operations that of Mikulicz is simplest and best. The anterior wall of the prolapse is cut through, layer by layer, peritoneum sutured if opened, bleeding points tied, and the apposed gut-ends sutured carefully together. The posterior half is then treated in precisely the same way, and the result is an end-to-end anastomosis, with very little loss

of time or blood. The suture line is covered by iodoform gauze, but no packing is used in the rectum. The dressing is removed and the rectum irrigated every day. The bowels are confined till the eighth day, and then kept regular by enemata. If the sphincter is too much relaxed a V-shaped portion may be excised posteriorly. The functional result is usually very good. Stricture seldom results, especially if the suturing has been carefully done.

Treatment of Fatty Heart.—An interesting review of the treatment of fatty heart is given by T. Schott (*Med. Record,* March 24, 1900) who, with his brother, instituted and has carried on for many years a most systematic mechanical and balneological treatment for various heart lesions, at Nauheim. He says that a fatty heart may be diagnosticated if the following conditions are detected: An easily induced dyspnea in a person having an abundant deposition of fat upon the body, especially on the chest and abdomen, with a small, feeble, frequent and easily compressed pulse, with final dilatation of the heart and diminished ictus cordis. A general plethora or fulness of the skin may also be present. He deprecates the use of diminished, or rather insufficient, food supply with the hope of decreasing the general obesity, for this must result also in interfering with the nutrition of the heart-muscle, and it is not so much a diminution in weight that is desired as a substitution of muscle for fat. The free use of mineral waters also results, as a rule, in the general debility of the system or in a temporary loss of fat which soon returns when the patient reaches home. Oertel's method of mountain-climbing has been found too severe for many cases. He advises a restricted diet, but one that is highly nutritious, thus not depending upon it for any marked reduction in weight. The gymnastic treatment, consisting of exercises with resistance, is unhesitatingly recommended for all the forms of fatty heart, since the resistance may be regulated to suit the weakest or the strongest heart. Rest should never be indulged in after eating. Massage will often prove efficient in promoting absorption of fat. The balneological treatment is very important and is also carefully regulated according to the stage of the degenerative process. Chlorosis, anemia, rheumatic or arthritic complaints, and old age, require warm temperatures. The baths usually get down to 76° F., and are increased in length up to twenty minutes. Gradually increased concentrations of salt are used in the baths and an early recourse may be had in cases of fatty heart to the effervescent running-baths.

Gout and Rheumatism.—So much unsatisfactory speculation in regard to the etiology of gout and rheumatism has been written that one reads with pleasure the interesting and suggestive article by W. H. Porter (*N. Y. Med. Jour.,* March 24, 1900) on the etiology and dietetic treatment of these conditions. Both chemicophysiological and clinical evidence point clearly to a defective oxidation on the part of the system as the chief predisposing factor in causing the pathological lesions of rheumatism and gout. This may be due to taking into the body more oxidizable food products than the normal system can fully oxidize, or a diminution in food, especially of a poor quality, may result in a malnutrition and anemia such that the food does not encounter sufficient oxygen for its perfect reduction. But why should this suboxidation result in the lactic-acid or rheumatic condition in one case and the uric-acid or gouty condition in another? Physiological chemistry teaches that the formation of lactic acid in the blood from starches and sugars is untenable. Both conditions are probably due to a suboxidation of proteid food. Uric acid is a normal excretory product not so fully oxidized as urea, always appearing in larger quantities when the nutritive changes of the body are defective. The author believes that it is manufactured in the renal cells rather than in the liver, spleen, etc., as is generally accepted. He claims that its detection in the blood is not yet by any means clearly demonstrated, and its presence in other tissues is explained by supposing a vicarious production of uric acid, resulting from the disturbed nutritive changes and the modified metabolic processes of the protoplasm of those tissues. The increased uric acid formation during digestion results from the diminution in the supply of oxygen to the renal cells at this time, which ordinarily form the more completely reduced substance, urea. Uric acid is, however, an acid product never oxidized into urea but increases in amount whenever there is an interference with the utilization of the full amount of oxygen as compared with the foodstuffs absorbed. The carbohydrates and fats require larger quantities of oxygen, but are more easily oxidized than the proteids, the latter being imperfectly reduced when too large quantities of food are taken and are excreted as uric acid. When the renal cells fail to perform their function, various tissues throughout the body assume an abnormal action and produce uric acid, which is at once changed into an urate of sodium. The oxidation of carbohydrates and fats never results in the formation of any by-products toxic to the system. It is also probable that bacteria, from their presence in the alimentary canal, are largely responsible for the production of various types of suboxidation on account of their interference with digestive processes. Thus the great factors are found to be the prolonged intake of a larger nutritive pabulum than can be perfectly oxidized, and the action of bacteria upon the proteid constituents of the food in the alimentary canal. Both carbohydrates and proteids contain all the essential elements of a food and can alone sustain life, but neither is a perfect food and a restricted mixed diet is by far the best. Animal foods are more easily digested, absorbed and assimilated than carbohydrates. On the other hand, they are more prone to produce suboxidation if not restricted in amount, since they are

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nearly all absorbed. Large quantities of the vegetable food, however, are so undigestible that they are never absorbed but are passed off by the bowel. The large amounts of waste material from the vegetable food, while tending to loosen the bowels, are dangerous on account of their irritation to the mucous membrane, sometimes causing catarrhal conditions, and also on account of the fermentative changes which they are liable to induce. To secure the best results under all circumstances requires the utilization of both vegetable and animal foods, a well-regulated mixed diet in which the animal food predominates. A plain animal diet is little liable to undergo putrefactive fermentation, and, if we reduce the total quantity of food ingested so that it will never exceed the oxygenating capacity of the system, the two main factors in the production of gout and rheumatism are obviated.

Citric Acid in Ozena.—The following conclusions are drawn from a large variety of cases of ozena and atrophic rhinitis by Lewis S. Somers (*Therapeutic Gaz.*, March, 1900) on the value of citric acid in these affections. (1) The drug is of great value in preventing the fetid odor of atrophic rhinitis. (2) Its successful action depends on its direct application to the diseased tissues; for this reason all foreign material must first be removed. (3) After its use, the ozena usually remains absent from one to two days depending on the extent of the morbid process. (4) It exercises no direct action on the diseased tissues in the direction of restoration to their normal functions. (5) Unless used regularly, its action is but temporary and the ozena becomes again prominent. (6) It inhibits to a slight degree the formation of cicatrices. (7) Finally, citric acid is an important addition to the therapy of fetid rhinitis by enabling the rhinologist to combat successfully the chief complaint of the patient, namely, ozena.

Epididymitis.—This, the most dreaded of complications following or accompanying gonorrhea, is at the same time the agent of most unhappiness to the patient. H. M. Christian (*Therapeutic Gaz.*, March 15, 1900) describes a method of treatment for this condition, which is both simple and efficacious. The patient must go to bed and have the bowels moved daily by a saline laxative. A Swedish leech applied over the cord on the affected side gives great relief in the early days of the trouble. Moist heat for forty-eight hours applied continuously contributes largely to the patient's comfort. This is accomplished either by a hot-water bag or best by a flaxseed poultice entirely enveloping the testicle. After two or three days in bed, the further treatment may be begun. For those patients who, through stern necessity are kept ambulant, it becomes quite a question for the physician as to the best treatment. The old method of applying lotions of lead-water, laudanum and aconite, with the wearing of a suspensory bandage, has never appealed to the author as being efficacious. He uses an application of cotton and oiled silk, the whole dressing covered by a laced suspensory. The ointment used on the testicle is composed of ichthyol, blue ointment and belladonna ointment. Best of all is the local application of guaiacol. Great relief follows the use of this agent within twenty-four hours, even where the patient is compelled to remain on his feet. The use of guaiacol is followed by a smarting and tingling of the skin, lasting no longer than an hour. No dermatitis occurs. It is applied in the form of a twenty-per-cent. ointment in lanolin, and the testicle is first gently massaged with it and then more is applied on cotton kept in place by a suspensory or ordinary gauze bandage. The dressing is renewed every second day. After six days the following may be substituted for the guaiacol:

Ung. hydrarg.
Ung. belladonnæ.
Ichthyol.
Lanolini .....aa 3ij

The testicle returns to its normal form in two to three weeks. In private practice it is perhaps better to use guaiacol vasogen than the ordinary guaiacol ointment.

Vaccination.—In a leading article of the *Therapeutic Gazette* for March appear some valuable hints regarding the method of vaccinating properly, which it might be well to summarize and bear in mind:

(1) Don't fail to rinse the part to be vaccinated with boiled water and dry. (2) Never apply antiseptics to the site chosen for inoculation. (3) It is best to draw no blood. A gentle oozing of the serum will give better results. (4) The vaccine must be rubbed thoroughly and persistently into the abrasion. (5) The clothing is not to be replaced until the vaccine is entirely dry. (6) Antiseptic dressings are not to be applied, except in cases in which there is danger of infection from the environment or uncleanliness of the patient. (7) The vaccine is not to be exposed to extremes of temperature. High temperatures spoil it. (8) Do not expect to find a swollen arm, indurated glands, high fever, and a suppurating ulcer—these belong to the old-fashioned means and methods of vaccinating. (9) The success or failure of the process is not to be taken for granted on the word of the patient or his parent. If there be found a typical vesicle, or the remains of one or more that may have been ruptured, the patient has been successfully vaccinated. (10) It is not always possible to pass judgment in a hurry as to whether the vaccination has "taken" or not. Sometimes the vesicles are delayed in their development.

Intra-Uterine Douches.—The danger of infecting the tissues and the danger of causing hemorrhage are the two contraindications against invading the uterine cavity during or after labor. The risk of infection is not so much due to the inability to sterilize the douche-tube or instrument as it is to the circumstances under which it may have to be introduced. In private practice the

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lack of sterilizing apparatus, of sufficient assistance, and of aseptic appliances, and the situation and difficulty of sterilizing the vagina, make the practice of asepsis difficult. The risk of hemorrhage from use of the douche-tube is greatest in cases in which the uterus is empty and remains enlarged and flabby after labor. At the same time the indications for the use of the intra-uterine douche, according to Edward P. Davis (*Am. Gyn. and Obstet. Jour.*, March, 1900), are just these conditions, septic infection and hemorrhage, which are also its dangers. When there is infection in the uterus, shown by an abnormal lochial discharge, or by fever and other signs of autointoxication, the interior of the uterus should be thoroughly cleansed, as well as explored. As the finger is rarely long enough to make a thorough exploration, the writer uses a douche-curette, very carefully and gently exploring and at the same time douching the uterine cavity. There is very little pain from this procedure, an anesthetic is not needed, and the subsequent disturbance is slight. The vagina must first be made aseptic. Davis prefers to use a normal salt solution when the patient is depressed, or sterilized water. He does not believe in using solutions of mercury within the uterus, because of absorption. If further douching is desired the writer uses a douche-tube of glass, fenestrated on the side only, and with a groove running lengthwise of the tube for the return of the fluid. In post-partum hemorrhage, he does not think that a stream of hot fluid will remove the clots within the uterine sinuses. A large mass of coagulum must, however, be removed in order that the uterus may contract properly. This intra-uterine douching for hemorrhage must be followed by an intra-uterine tampon of iodoform or sterile gauze. If in uterine hemorrhage it is thought that some placenta or membranes are retained, the douche-curette should be used. When sepsis and hemorrhage are present together, the use of an anesthetic is dangerous, and the uterus must be douched and cleansed as quickly as possible. This should be done with the douche-curette and the cavity of the uterus firmly packed with gauze. Prolonged douching should be avoided and the whole procedure performed as rapidly as possible. The writer does not believe in repeated intra-uterine douches, although in a few cases a second douche seems advisable.

Soluble Silver.—Although many local antiseptics are known, it is only since the various silver compounds were introduced that the general disinfection of the body became a possibility. A. Dworetzky (*Therap. Monatshft.*, March, 1900) reviews the evolution of silver-therapy and shows how the encouraging results obtained with metallic silver in contact with germ-life soon led to experimentation with the soluble salts, itrol and actol, the high bactericidal powers of which are now sufficiently established. On attempting to inject actol it was, however, noted that a coagulation often occurred at the site of introduction, which materially interfered with absorption. Collargol, or colloid silver, the soluble, allotropic form of metallic silver, was found not to do this; in fact, it remained in solution more readily in albuminous fluids than in pure water, and salts and acids seem to have little affect on it. Applied in the form of a 15 per cent. ointment, to be rubbed into the skin, it has actually cured general acute or chronic sepsis, and locally for buboes, gonorrheal epididymitis and furunculosis, a retrogression of symptoms up to complete resolution has been obtained without surgical intervention.

External Urethrotomy.—R. Harrison (*Lancet*, March 17, 1900) considers external urethrotomy specially applicable to resilient, rapidly contractile strictures; to wounds of the urethra, either operative or accidental, where drainage is insufficient, since it is well known that clean, well-drained wounds give rise to less of the dense contractile tissue causing stricture; to stricture with urinary fistula and sinuses or with extravasation of urine; and to certain rare cases in which urethral manipulation is followed by acute symptoms of impending death, suppression of urine, rigors, etc. (*i.e.*, acute sepsis). The points of importance in the operation are: The use of a guide; the performance of internal urethrotomy as an immediate preliminary to the external operation; and the provision of free urinary and wound drainage. External urethrotomy without a guide is a difficult, dangerous, incomplete operation, and usually unnecessary. If urine can pass the stricture there must be room for an instrument if it be small enough and properly guided. The utility of preliminary internal urethrotomy is evidenced by the ease with which the external operation is performed on the grooved staff. The internal urethrotomy is done by passing a filiform into the bladder and then cutting the stricture with a Maisonneuve urethrotome. The wound must be well drained and cleansed, for the character of the tissue, by which the stricture is repaired, is materially affected by the nature and duration of the drainage and irrigation that is employed. To this point too little attention is paid.

Mild Forms of La Grippe.—Influenza is characterized, says H. Huchard (*Bull. de l'Acad. de Méd. Paris*, March 5, 1900), by a tendency to visceral congestions, asthenia of the nervous system, and diminished arterial tension. Among the mild forms there are afebrile types without any inflammation, yet with such profound influence on the nervous functions as to cause much moral, physical and intellectual depression. Or there may be a slight pulmonary congestion, almost latent, without fever, perhaps with slight cough but no expectoration, and manifested on auscultation by a few subcrepitant or crepitant râles at one or both bases. There is also a febrile type of sudden access in which the temperature may reach 104° F. within twenty-four hours

and as rapidly decline; the pulse remains at 60 to 80 and there is no appreciable organic lesion. As la grippe is one of the most powerful factors in lowering the resisting power of the body, these mild types should be recognized and the patient made to avoid contact with tuberculous or other sick people. The skin, liver, and kidneys must be kept active, the stomach and intestines being treated by alimentation rather than by drugs. The mouth and nose should be cleansed by a solution of formol, menthol, or carbolic acid. If the patient is confined to bed a milk diet is most suitable. The author considers quinine as almost a specific when used in large doses and he gives 15-25 grains of the hydrobromide of quinine a day for from one to three days, but no longer. This may be combined with an equal quantity of ext. ergot. If there is gastric intolerance the quinine may be given subcutaneously. Antipyrin is generally harmful, but may be given at the onset for headache, if combined with caffeine or black coffee. For the weakness of the nervous system use the glycerophosphates, or strychnine sulphate, gr. $^1/_{30}$, three times a day.

Tuberculosis of Stomach.—Based on an extensive pathologic experience, M. Simmonds (*Münch. med. Woch.*, March 6, 1900) concludes that gastric tuberculous ulcers are extremely rare. Although the gastric juice does not directly kill the bacilli, it renders the soil unfit for their propagation. Wherever there is achlorhydria, as in gastric cancer, the ulcers are not as rare as in otherwise normal organs. As a rule, they present small, single or multiple losses of tissue most commonly situated about the pylorus. Gastric symptoms were uniformly absent in all cases examined, thus rendering a diagnosis *intra vitam* impossible.

Pneumonia and Antipneumotoxin.—After citing some statistics as to the mortality of pneumonia, and giving a short résumé of some experiments in serum-therapy, Charles B. Canby (*Maryland Med. Jour.*, March, 1900) presents one case of pneumonia of his own and three others, in all of which antipneumotoxin was used successfully. His own patient was a youth, twenty years of age, who presented the physical signs of pneumonia with consolidation, and had a temperature of 105° F., with respirations 56 to the minute, and an uncountable pulse, at 6 P.M., when 12 c.c. of antipneumotoxin were injected. Three hours later his temperature had fallen two and one-half degrees, there was profuse perspiration, and his respirations were down to 40. The pulse was still uncountable. The next morning the temperature was 99° F., respiration 24, and pulse 96. Another 12 c.c. of antipneumotoxin were then given and from that time on his recovery was uninterrupted, and in twelve days from the last injection he was at work. In the second case reported there was a temperature of 103° F., pulse 110, rapid respiration, and the physical signs of pneumonia with consolidation. On the evening of the third day, in bed, the patient received an injection of 10 c.c. of antipneumotoxin, and the next morning he was in a profuse sweat, his temperature was 99° F., and his breathing and pulse were much improved. Four days later his temperature was normal and in eight days after the injection he was up and apparently well. The third case had pneumonia with consolidation, a temperature of 103° F., pulse 110, and respiration 80. She received an injection of 10 c.c. of antipneumotoxin in the morning. In the evening of the same day her temperature was 103° F., pulse 108, respiration 33, but on the next morning the temperature was normal, pulse 80, and respiration 20. For two days she was better and sat up in bed, but in the evening of the second day she had a chill, a temperature of 105° F., and respiration was 32. The next morning she was injected again with 10 c.c. of antipneumotoxin, her temperature being 104.2° F., pulse 113, respiration 32. In the evening there was only a slight change, but on the next morning her temperature was normal, pulse 70, and respiration 18. From this time on she progressed and in five days was well. The fourth case presented the symptoms of pneumonia, with a temperature of 103.8° F., pulse 140, respiration 42, at the time of an injection of 20 c.c. of antipneumotoxin. Six hours later his temperature was 103.6° F., pulse 102, respiration 28, and 20 c.c. more of the serum were injected. The next morning his temperature was 99° F., pulse 76, respiration 28, and the following morning his temperature was 98.4° F., pulse 70, respiration 23. From this time on his temperature remained normal and he progressed nicely.

Dysenteric Abscess of the Liver.—According to M. Kelsch and M. Nimier (*Bul. de l'Acad. de Méd.*, Paris, March 12, 1900) many cases are reported of the outbreak of liver abscesses in old dysenterics on their changing from a hot country to a temperate one during the cold season. Such abscesses are marked by their irregular course, their remissions and paroxysms, their chronicity, and their tendency to recurrence, these being the characters which distinguish the dysentery itself. The essential lesion both in liver and intestine is a necrosis. The abscess may appear first, but usually it accompanies or follows the dysentery, even appearing many years after the latter has been completely cured. The pus is yellow, bile-stained, or chocolate-colored, and is often so thick that it is missed by the exploring needle. It is mostly sterile, sometimes contains the colon bacillus, and very rarely the amœba dysenterica; but the question still remains open as to whether these organisms cause or follow the primary lesion. The pus, even when apparently sterile, can produce other abscesses which in turn contain only sterile pus. When the abscess points upward it may readily be detected by the X-rays. The authors found that of nearly five hundred cases of abscess of the liver 85 per cent. were associated with dysentery.

Pyramidon.—W. Pauli (*Centralb. f. Therap.*,

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March, 1900) lauds the antipyretic and antineuralgic properties of pyramidon and finds it the best substitute for the salicylates in acute rheumatism. It may cause profuse perspiration without collapse and never irritates the alimentary canal. It is only when the functions of the system are much disturbed that undesirable symptoms are seen; thus, one anemic patient experienced painful paresthesiæ, and a second, suffering from advanced mitral insufficiency and stenosis, developed a morbilliform eruption.

Open Treatment of Fresh Fractures.—C. L. Scudder (*Bost. Med. Surg. Jour.*, March 22, 1900) drawing his material from the cases of fracture in the Massachusetts General Hospital, which were examined from one to seven years after treatment, says that in adult life 69 per cent. and in old age 100 per cent. of the results by the ordinary methods of treatment were imperfect. He classes as imperfect results those cases in which there is deformity, persistent pain, tenderness, impaired function and inability to endure prolonged use. These poor results are due to incomplete reduction, and faulty immobilization. Often satisfactory reduction is impossible because of bone-fragments, interposed shreds of soft tissue, blood, the interference of muscular contractions, or the obliquity of fracture-surfaces. Often the conditions of a fracture are such that no form of apparatus can hold the fragments in proper alignment. Since these hindrances exist in nearly every fracture, and since the percentage of imperfect results by ordinary methods of treatment is so high, it would seem to be the part of sound surgery to cut down on fractures, remove blood-clot, get good apposition and fixation of fragments, and repair as far as possible the damage to soft parts. The fear of adopting this procedure is one of the legacies of preantiseptic days. At present there is less danger in an open than in a closed fracture.

Osteomalacia.—A. Littauer (*Therap. Monatshft.*, March. 1900) mentions among early symptoms of this disease muscular weakness, nervous irritability, paresis of the iliopsoas, contractures of the adductors and increased reflexes. Later, the bending of the bones, pains on locomotion, and the peculiar duck-gait render the diagnosis easier. The disorder has been found endemic in certain localities, and, while most prevalent during the sexual life of women, any age may suffer. Rheumatic influences, a purely vegetable diet, malnutrition, and severe general disease have been considered possible etiological factors in cases not connected with gestation. In the latter the symptoms generally improve during the puerperium, but yet there is no complete natural cure. Since castration has been introduced as a remedy, many ovaries have been examined for pathological changes, but nothing in addition to a hyalin degeneration of the vessels could be discerned. Theories as to causation are plentiful, but the one assuming some deranged ovarian function to lie at the bottom of the disorder still finds greatest favor. Organotherapy has, however, proven useless except in one case reported cured after the administration of extract of bone-marrow. It is justifiable in all cases to try phosphorus before resorting to castration.

Treatment of Hydrocele.—In reviewing the treatment of hydrocele N. Cerri (*Cleveland Med. Gaz.*, March, 1900) suggests the use of a method which was first introduced by Dr. Juathrociocchi. After evacuating the fluid, a piece of catgut about eight inches long is introduced through the canula. By mechanical irritation this excites an adhesive inflammation of the serous surfaces and in a few days it becomes absorbed. If the irritation is not sufficient the catgut may be soaked in a solution of perchloride of iron before introduction. The results are extraordinary; recovery being almost certain, and, furthermore, the patient is able to attend to his business while the treatment is being carried on.

Retroperitoneal Sarcomata.—J. D. Steele (*Am. Jour. Medical Sciences*, March, 1900) says that while retroperitoneal sarcomata are comparatively rare, they deserve more attention as to diagnosis than they receive. They occur more frequently in males, and in the first, fourth, fifth and sixth decades of life, *i.e.*, later than sarcoma ordinarily occurs. Traumatism plays little part. It is a very rapid-growing tumor, the average duration being about nine months. It arises most frequently in the lumbar region. When lateral it is most frequently on the right side. It is usually lobulated and capsulated, hard and firm in its early stages, very prone to degeneration later, of a hemorrhagic, puriform or myxomatous type. In about a third of the cases it becomes cystic. Metastatis, while uncommon, is most apt to occur in the liver and lungs. The softened mass may rupture into the intestine or peritoneal cavity. The onset is insidious, the first symptom being usually functional digestive disturbances, and then pain and edema in the lower extremities due to pressure effects. Later there appear cachexia and symptoms due to pressure on the abdominal organs. At first the physical examination tells little. Later the colon is pushed forward and lies on the tumor's anterior surface. In lateral growths the small intestine is pushed to the opposite side, while median tumors are surrounded by an irregular circle of small intestine. This arrangement of bowel is very characteristic of all retroperitoneal growths. The tumor may fluctuate, and may move either with respiration or on palpation. Diagnosis, beyond determining the retroperitoneal and malignant character of the growth, is very difficult, especially the differentiation from tumors of the kidney or suprarenal body. Exploratory incision alone determines surely the position and character of tumor. Early surgical interference offers the only hope of cure.

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SATURDAY, MARCH 31, 1900.

FUNCTIONAL AND ABORTIVE MYXEDEMA.

THE realization that certain special forms of constitutional disease do not always occur in their complete and typical forms, but that they may exist with such slight symptoms as to require careful observation for their detection, is one of the most interesting phases of advance in medical diagnosis during recent years. Mild forms of so-called exophthalmic goiter are, however, very frequently encountered, and the connection between these abortive types, presenting only slight tachycardia, some tremor and digestive disturbances, are now recognized as partaking of the nature of the severe types of the disease originally described by Basedow. Raynaud's disease, in its mild form, is, by no means, the rare malady that symmetrical gangrene has very happily always been. The suggestive relationship between all of the disturbances of peripheral circulation, from Weir Mitchell's disease, erythromelalgia, up to the complete cessation of blood-flow that causes gangrene, is now very generally recognized.

Recent observers, especially in France, have called attention to the fact that abortive forms of myxedema, analogous to the mild types of Raynaud's and Basedow's disease, are not infrequent. The patients are apt to be undersized and usually have attained, late in life, their growth and development, their teeth and the use of their limbs; although they may have been apparently normal but delicate children. They early take on the appearance of being much older than they are. In the milder forms no true myxedema occurs, that is no mucinoid infiltration of the subcutaneous areolar tissue, but the mucous membranes are usually extremely liable to functional swelling and even to localized hypertrophy. The mucous membrane of the nose is easily affected by irritants, microbic or mechanical, or by unfavorable meteorological conditions. The tonsils are often hypertrophied and there is prone to be a ring of abnormally enlarged adenoid tissue in the pharynx. The teeth decay early and the hair falls out prematurely. The falling of the hair of the outer part of the eyebrow is said to be almost pathognomonic of this *myxedeme fruste,* or hypothyroidia, as the French writers call it.

Women who suffer from the affection are prone to have disturbances of the circulation of their mucous membranes at the time of menstruation. A tendency to hypersensitiveness of nose and throat and even of the vaginal mucous membrane has often been noted. Such patients frequently suffer from chronic constipation which seems to be due to the disturbance of the circulation of intestinal mucous membranes. Painful conditions of the joints are often noted and have usually been treated as rheumatism. The malnutrition, arthritic nerve-endings incident to the lack of certain products of the thyroid gland in the circulation, is supposed to be the cause. When hypothyroidia exists women endure very badly the strain of frequent childbearing or of prolonged lactation.

Where the symptoms noted are really due to a defect of the thyroid, even although it may be impossible to recognize that fact by palpation, the administration of extract of thyroid in small quantities brings relief, and restores normal metabolism. The recognition of the cause of these easily misjudged symptoms is, however, most important. Patients with tendencies to the development of symptoms because of defective thyroid secretion may be warned of their inability to withstand the serious crises of existence and be taught the limits of their capacity for the "strenuous life" that has become the passion of the day.

THE ART OF MEDICINE.

WHEN one considers by what a painfully slow process medicine has emerged from the Cimme-

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rian darkness of mysticism and empiricism, and wormed its tedious way into the borderland of exact science, there is little cause for wonder at the present trend of medical research toward the ultrascientific. We are ashamed—and pardonably so—of our long lineage of leeches and barber-surgeons, of Sangredos and Purgons, and are naturally enraged at being hampered in our progress by their modern counterparts—the motley throng of pseudoscientists, healers, osteopaths and other leg-pullers *"ad infinitum"*—who pullulate in every nook and corner of the country. And yet, are we not in a measure to blame for the existence of these flourishing hordes, by exalting the *science* to the unspeakable detriment of the *art* of medicine?

In medicine we believe that the ancient aphorism about the exception proving the rule does not obtain. It follows, then, that mankind can not be dealt with medically from any hard and fast scientific standpoint. The constant surprises with which we daily meet in our observations of the varying reaction of different organisms to identical morbific agents, and the blank failures which so often attend attempts at infant feeding by the scientific modification of cow's milk, sufficiently attest the truth of this belief.

Consider how often Nature—with supreme indifference to the inductions of our subtlest logic based upon scientific research—plays havoc with our *"ex cathedra"* prognostications. That this fact was keenly appreciated by that prince of medical wits, Dr. Holmes, is evidenced by the following lines from his poem, "The Morning Visit"—a bit of medical wisdom that should jingle in the brain of every young M.D. who leaves our schools:

> **But Nature's graduate when she schools to please,**
> **Wins back more sufferers with her voice and smile**
> **Then all the trumpery in the druggist's pile.**

Is it any wonder that that ineffably wretched victim of a bedeviled nervous system, the neurasthenic—a creature whose nervous energy is often at so low an ebb that he marvels at the existence of people with sufficient strength to walk about or even to maintain themselves erect—should turn with disappointment, rage even, from the offensively healthy and eupeptic doctor who assures him—with a fine scorn at his childish absurdities about his health—that he is "all right if he would only think so," and look for comfort and succor to the crafty quack who stands ready to cure his "heart disease" or his "paralysis?" We may sneer at such charlatanry and, from the lofty pinnacle of science, contend that the patient thus relieved of his infirmities is a gullible fool; but, for the most part, the physician has to deal with sick, and, therefore, miserably illogical—from our viewpoint—specimens of humanity, and not with scientists and profound reasoners.

To draw the line at charlatanry in medicine is not so extremely easy as commonly supposed. The superiority of the educated doctor over the quack lies in his knowledge of morbid processes and in his diagnostic skill, but these very accomplishments must surely bring him to grief if, guided blindly by them, he neglects any means whatsoever to give his patient both hope and relief. The merest tyro in medicine soon learns—and without the aid of any profound psychological treatise—to recognize the immense influence of mind over matter, and he would be little short of an idiot if he did not incorporate into his therapeutic armamentarium that powerful agent, suggestion—the main tool of the charlatan.

There are so many factors of importance (not in the scientific treatises) for the successful treatment of the sick that lack of space does not permit the enumeration of all, but two seem so salient and, in a way, so amusing that they are worthy of note. These are the physician's personality and appearance. Imagine, if you can, a person with the sensibilities of a pachyderm attaining eminent success in the treatment of nervous invalids, or one with an incoercible acne rosacea in the rôle of a dermatologist *"qui est dans l' train,"* as the French say.

We should never forget that Nature is kind even when she appears most cruel. Witness the subtle toxin she generates in the consumptive, which makes him hopeful to the very end. Surely hopefulness is the inalienable right of every sufferer, and we should strive most zealously to foster it by every canon of medical art rather than to shatter it by the inexorable arguments of science. Think what the world would have lost in the way of art and literature had certain of the masters, victims of incurable disease, not been buoyed up by the optimism of wise medical counselors and thus enabled to forget, in their work, the fatality of their maladies. The letters of that enchanter of two worlds, Robert Louis Stevenson, make goodly reading for medical men of pessimistic tendencies, in that they show what prodigies of both mental and physical labor were accomplished, and what a cheerful frame of

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mind was preserved in the face of a disease which rendered its victim the frailest of the frail.

To sum up in a word the lesson we would teach, we should never allow ourselves to be so hampered by a purblind adherence to what we are pleased to call the hard facts of science that we neglect in the alleviation of the sick the simple, and often homely, measures suggested by art.

ECHOES AND NEWS.

NEW YORK.

Fire in Erie County Hospital.—A fire at midnight burned out the interior of the consumptive ward of the Erie County Hospital. Fortunately, all the sixty patients were carried from the building without injury.

Public School Baths.—Public School No. 1 of Manhattan Borough is to be provided with twenty-six needle baths, with hot and cold water. These will be open for the use of the boys of the school. The plan is to allow the boys, under the direction of the principal, to bathe in rotation by classes.

Smallpox at Columbia.—A law student of Columbia University, living in West One Hundred and Twenty-first street, was discovered last week to be suffering from smallpox. He was promptly removed to the hospital for contagious diseases, and four hundred of the students were vaccinated.

Smallpox at Quarantine.—The freighter "Pawnee" arrived in New York harbor on March 20th, from Mediterranean ports, by the way of Bermuda, with three cases of smallpox on board. She was quarantined and all her crew, save the three affected, were transferred to Hoffman Island for observation. These three were taken to North Brothers Island.

A Destitute Physician.—Dr. Charles Obermüller of 144 East Thirty-third street was taken to Bellevue Hospital, on March 23d, destitute and suffering from alcoholism. He was graduated from Bellevue in 1888 and afterward had charge of the Outdoor Poor Dispensary. Then he became a lecturer in the college and later was chief physician of the Pennsylvania Railroad. Three years ago he began to drink heavily.

Contagious Diseases.—For the week ending March 24, 1900: Measles, 828 cases, and 34 deaths; diphtheria, 265 cases and 46 deaths; laryngeal diphtheria (croup), 26 cases and 13 deaths; scarlet fever, 176 cases and 10 deaths; smallpox, 2 cases; chicken-pox, 26 cases; tuberculosis, 251 cases and 192 deaths; typhoid fever, 27 cases and 8 deaths; cerebrospinal meningitis, 8 deaths. Totals, 1601 cases and 311 deaths.

Doctor's Bespattered Overcoat.—Dr. Henry Spitzer secured in court a judgment for $27 against a builder for damages sustained through the latter's workmen having spattered some mortar on his clothes while he was passing a building under construction. For an hour lost in cleaning his coat the doctor demanded fifteen dollars contingent damages. This was not allowed nor would his demand for $40 be allowed, although the doctor declared his clothes were worth that sum.

Fruit Sale for Floating Hospital.—A few years ago a car-load of oranges was donated by some Californian fruit-growers to the "Los Angeles Home for Indigent Children." This fruit was sent to New York City for auction. Over two thousand dollars were realized. The Southern California Fruit Exchange of Los Angeles has recently donated a car-load of the best California navel oranges for the benefit of the sick children of the poor of New York, and has selected St. John's Guild as the medium through which the proceeds shall be expended.

Changes at St. Luke's Hospital.—On March 26th the Rev. Dr. George S. Baker, Superintendent of St. Luke's Hospital, was retired by the Board of Managers and appointed Pastor Emeritus, at a salary of $2000 per year. Dr. Baker has served the hospital for nearly a quarter of a century. The resignation of Mrs. Quintard, who was the Directress of Nurses until she left for work in Cuba, a month ago, was accepted. It was rumored that there had been dissatisfaction with Mrs. Quintard's work as head nurse in that she showed favoritism toward the Canadian contingent among her nurses, but both Mr. Miller and Dr. Baker declared that all such rumors were without foundation. The hospital staff has been enlarged by the creating of a pathological interneship. This member of the staff will be an assistant in pathology after the manner established by Dr. Thacher at the Presbyterian Hospital.

PHILADELPHIA.

Hospital Donations.—The proceeds of the annual Charity Ball have been awarded, each of the following institutions receiving $3000: University of Pennsylvania Hospital, Jefferson College Hospital, Southeastern Dispensary for Women and Children, and the Women's Directory.

Quarantine Cards.—A Committee of the County Medical Society, consisting of Drs. Tyson, Meigs and S. Weir Mitchell, has presented to the Mayor a resolution of the Society asking that the present plan of posting cards on houses containing cases of contagious disease be modified or discontinued. People object to these signs and are led to deceive the authorities.

Hospital Fire.—An explosion near the Jefferson Hospital March 22nd broke all the windows in one end of the building and finally set fire to it. The patients were all removed to the College building and to other hospitals without mishap, the nurses and hospital staff exhibiting

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admirable courage and discipline. The damage to the hospital was slight.

Mutter Lectures.—Dr. John B. Roberts of the Polyclinic Hospital will deliver the Mütter lectures on surgical pathology for the year 1900. The course consists of ten lectures, beginning March 27. The subject is "The Surgical Treatment of Congenital and Pathological Disfigurements of the Face."

Health Report.—Deaths for the week ending March 24th were 637, an increase of 57 over those of the previous week and an increase of 106 as compared with the corresponding week of last year. Contagious diseases: Diphtheria, 72 cases, 21 deaths; scarlet fever, 75 cases, 3 deaths; typhoid fever, 75 cases, 13 deaths.

College of Physicians.—At the meeting of the Section on Ophthalmology, March 20th, three cases of partial restoration of sight by operation after periods of blindness of respectively thirteen, thirty-three and sixty years were reported. Stress was laid upon the fact that operations to relieve traumatic blindness were most successful when the eye had reached a quiescent state.

Dr. Shoemaker stated that enophthalmos may be due to atrophy or paralysis of the cheek ligaments disturbing the balance of power. Tenon's capsule and the cheek ligaments are more involved in that condition than is Müller's muscle.

Dr. G. E. De Schweinitz filled a collapsed eyeball, caused by a refractory patient during a cataract extraction, with physiological salt solution, and obtained excellent results. The upper half of the iris had been torn from the margin and was lying in the bottom of the anterior chamber. This was brought up and when the eyeball was filled it appeared as in an ordinary cataract operation. At the end of seven weeks vision was twenty-fiftieths.

Pathological Society.—At the meeting of March 22nd Dr. J. A. Scott reported a case of hemorrhagic pancreatitis. The symptoms resembled those of acute intestinal obstruction and the patient died on the operating-table. There had been severe epigastric pain for three days, accompanied by vomiting, the pain finally being transferred to the left iliac fossa. There was no jaundice. Areas of fat-necrosis were found in the mesentery and omentum. Changes in the endothelium of the pancreatic vessels were found and many of them contained thrombi. Dr. Simon Flexner stated that the vessel changes consisted mainly of a proliferation of the endothelial cells, whether this was primary or secondary not being clear. The thrombi he considers as an accompaniment of the changes rather than as the cause, for the reason that they are found in the vessels of the dead area of the organ. The distribution of the areas of fat-necrosis in the omentum and mesentery along the line of the vessels corresponds to experimental cases which he has produced. This is also true of the areas of thrombosis.

Dr. J. F. Schamberg cited a case of tuberculosis of the skin of the hand from accidental inoculation. The patient was a laryngologist who had been treating two tuberculous cases.

CHICAGO.

Gift to Evanston Hospital.—Mrs. Herman D. Cable has made known her intention of presenting to the Evanston Hospital a gift of $50,000 prior to her departure for Europe. Half of this amount is to be used in the erection of the Herman D. Cable Memorial Building, and the other $25,000 is to be devoted to the maintenance of a children's ward therein, which will be known as the Anita Hutchins Cable Ward—a memorial to the donor's daughter. Mrs. Cable's munificent action has led to the formation of a plan by President Elliot and others interested in the Hospital for the establishment of a permanent endowment fund for the institution.

Smallpox Increasing.—Chief Clerk Pritchard of the Chicago Health Department has made a tabulated list of smallpox cases throughout the various States, which shows a large increase in the United States for the last week ended March 10th, of 1272. The figures for the week ending March 16th in thirty-six States and Territories show 3952 cases. The State showing the largest number of cases is Louisiana, with 2015 cases, and Texas comes next with 517. California is the State least affected, having but 3 cases. New York has 11 cases, as against 74 for Illinois. Five of these 74 have been discovered in Chicago.

Election of Officers.—At a meeting of the Board of Directors of the Chicago Eye, Ear, Nose and Throat College, recently held, Dr. A. G. Wippern was elected Vice-President and Dr. Wm. L. Ballenger was reelected to the Chair of Otology, Laryngology and Rhinology.

Mary Thompson Hospital.—The annual meeting of the directors of the Mary Thompson Hospital for Women and Children was held March 20th. The annual report showed that 517 patients were admitted during the year, and the total receipts were $20,744, leaving a balance of $300. The sum of $10,000, bequeathed by the late George M. Pullman, was formally accepted.

Chicago Drainage Canal Board.—The Engineering Committee of the Board has received a report on the examinations of Illinois River water, carried on in the interests of the Board. The report states: "The condition of the water at the mouth of the Illinois was almost normal with that of the general water supplies of the main tributaries of the Illinois River. The investigation so far shows clearly that there has been scarcely any pollution of water supplied to St. Louis at the intake."

Mortality Statistics.—Of the 547 deaths reported to the City Health Department last week, ending March 17th, 116 were due to pneumonia. The death-rate is 21 in excess of that of the pre-

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ceding week, but the Department claims a gratifying decrease in mortality from the group of preventable diseases, particularly from diphtheria and scarlet fever. It is also shown that the excess in the total deaths is found among chronic invalids of advanced age, upon whom the remarkable March weather has had disastrous effects. As a result the number of deaths among those more than sixty years of age was higher last week than ever before recorded by the Department for a like period—44 of the total 547. The principal causes of death among these were the acute pulmonary affections, pneumonia, bronchitis, diseases of the heart and of the kidneys.

Medical Inspection of Schools.—Mr. W. Lester Bodine, Superintendent of Compulsory Education, has submitted his report to the Board of Education on medical inspection from February 19th to March 16th. The report shows there were 21,404 examinations during this period. As a result of them, 1213 pupils were excluded because of contagious diseases. The reports of the individual medical inspectors show that the number of cases of mumps has increased largely, while there are fewer scarlet fever and diphtheria cases. Since January 8th there have been 54,000 medical inspections, and 3444 pupils excluded. Mr. Bodine believes the great good which results from medical inspection is rapidly becoming apparent. Words of praise are heard on all sides for the Board of Education in establishing the medical inspection.

Appointments at Rush Medical College.—Dr. Henry B. Favill will be Professor of Therapeutics and Preventive Medicine. Dr. Daniel R. Brower, who formerly occupied the Chair of Meteria Medica, Pharmacy and Therapeutics, and Dr. John M. Dodson, of the Chair of Physiology, will in the future have special departments connected with the Chair of Medicine, now under the direction of Dr. Frank Billings, jointly shared with Dr. James B. Herrick and Dr. Henry M. Lyman. Dr. J. Loeb of the University of Chicago will be the successor of Dr. Dodson as Professor of Physiology. It is said that much of the work of the junior class will in the future be done at the University of Chicago. Other changes in the Faculty are under consideration. Dr. Frank Billings has been selected Dean.

Intestinal Anastomosis.—At a meeting of the Chicago Gynecological Society, held March 21st, Dr. Alexander Hugh Ferguson showed a clamp and enterotome, a modification of Grant's enterotome, which he uses as an aid in suturing. The bowel clamps are applied to the bowel on either side of the field of operation for the purpose of preventing the escape of intestinal contents while operating. They are composed of two blades, one of which is fenestrated, and both are covered with rubber, so that the pressure does not come directly on the bowel between the blades, but on the rubber itself. This pressure is controlled by two screws, one at each end, which can be regulated to a certainty. The instrument is employed in extra-intestinal methods of suturing in end-to-end, lateral, or end-to-side anastomosis, as an aid while doing the sewing. It is easily and rapidly applied; it minimizes the chances of soiling the peritoneum with intestinal contents; it holds the bowels firmly and securely together, so that the most accurate stitches can be quickly applied, thus greatly lessening the liability of leakage. It aids in completing the operation except the small hole through which the blades of the clamp entered; the stitches are inserted first, the intestinal walls cut afterward, and the pressure of the clamp on the blood-vessels of the mucous membrane for several minutes while sewing is being done lessens the tendency to hemorrhage. The new passage made between the bowels may be of any size necessary, thus preventing the possibility of stricture formation.

GENERAL.

Dr. Osler Declines.—Professor Osler, who was being considered by the authorities of Edinburgh University with reference to appointment to the Chair of Medicine in that institution, says that he is not a candidate.

Gift to a Boston Hospital.—The Massachusetts General Hospital received, on March 24th, a gift of $75,000 from an unnamed donor. A condition is that the same amount be raised in addition. The whole is to be used for a new out-patient department.

Smallpox at Yale.—Upon the occurrence of a case of smallpox at Yale University, Professor Hadley advised all the students to be vaccinated, saying: "This is the right remedy and the sure one; the wrong remedy is to run away. If you have not the disease in your system vaccination will make you safe."

Mortality in the Army in the Philippines.—The official records of the War Department show that from June 1, 1898, the date of the occupation of the Philippines, to February 17, 1900, the mortality has been 65 officers and 1460 men, a total of 1525. Of these 612 were due to casualties sustained in battle and the balance to disease.

Army Diet-Kitchens.—The death of Mrs. Anne Wittenmyer, who died recently at Saratoga, N. Y., recalls the fact that she was the practical organizer of the army diet-kitchens. It was while in the hospitals at Chattanooga in the winter of 1863-64 that she organized the system for supplying food for men whose condition was the most serious. The Government furnished the staple articles and the Christian Commission and Soldiers' Aid Societies provided the delicacies and the nurses to superintend the diet-kitchens in which the food was prepared.

Dr. Seaman's Prize.—Dr. Louis L. Seaman, late Major Surgeon First United States Volunteer Engineers, presented to the Military Science Institution some time ago $100 in gold (or a medal

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of that value, as the successful competitor might elect) for the best thesis on the subject of "The Ideal Ration for an Army in the Tropics." The papers were submitted to a board of award and on March 27th the prize was unanimously awarded to Captain E. L. Munson, Assistant Surgeon, United States Army.

Hospital Ship "Inquiry."—The recent report on the hospital ship "Missouri," made by Colonel Long, has not been satisfactory to Secretary Root, who has appointed a Board of Investigation, one of the three members of which is Major Surgeon Henry S. Kilbourne. The "Missouri" left New York several months ago after being completely fitted out as a hospital ship. She was in charge of Major Arthur, an army surgeon, and there was constant friction on the voyage between him and Captain Dillon, the ship's master.

London's Water Supply.—The Royal Commission on the Metropolitan Water Supply is now considering definite plans for the future water service of London. A constant supply of water, the Commissioners point out, is not at present given to all the houses in London; about 72,000 are supplied only intermittently. Regarding the amount of water which will be necessary in the future, provision is being made for the requirements reaching forward to the year 1941. The amount of water required per head is reckoned at 35 gallons per day, or a total of 425,000,000 gallons. The estimated population in 1941 is placed at 12,000,000 of people. Provision will also be made to supply water to the upper stories of the lofty buildings.

Appeal to Bird-Lovers.—The American Ornithologist Union appeals to every bird-lover to assist in protecting the breeding-places of sea birds. This country is on the verge of losing forever one of the main features of its seacoast charms—the sea-birds themselves. In fact, the terns, the most exquisite of the gull family, and which formerly thronged our whole coast, have been so nearly wiped out by agents of the milliners that this year's onslaught, already fully organized, will glean almost the last pair from the few small breeding-colonies which remain, wherever these are unprotected. And the larger gulls, which are not only very beautiful, but absolutely essential as harbor scavengers, are also being decimated for the same purpose. In addition to the esthetic considerations the protection of these birds as scavengers is an important consideration tion.

Divided Disciples.—We learn form the *Vegetarian Magazine* that the disciples of vegetable food are divided into two schools, between which the dividing line is the earth's surface. One school sanctions all vegetables, the other only such as grow above the surface of the earth, except asparagus, which grows partly above the earth, and which, we suppose, is too good to lose. This latter school forbids the potato because it is too earthy. The following argument by a "woman physician" covering this vegetable is considered conclusive: "Never yet have I known a man or woman whose diet showed a preference for potatoes and other underground starch products who didn't likewise show a heaviness of mind and body. He steps weightily, he thinks slowly, his speech is halting, if not most of the time punctuated by a full stop. I know of no intellectual handicap like potatoes. On the other hand, I can always spot him who lives chiefly upon the succulent above-ground plants. Like them he is light, airy, quick in all his motions, ready with his tongue and never found wanting in his thoughts."

CORRESPONDENCE.

NAUHEIM AS A SUPPLEMENT TO CARLSBAD.

To the Editor of the MEDICAL NEWS:

DEAR SIR:—Allow me the privilege of your columns to take exception to a statement made by Dr. Manges in his contribution to the discussion on diseases of the heart before the New York Academy of Medicine, published in your issue of March 10th. The statement referred to and the sentence after it are as follows: "From Carlsbad the physicians are now accustomed to send patients who have taken the reduction cure to Nauheim for after-treatment. It is no wonder that this is so, for rapid loss of flesh always means loss of tone in all muscles, especially the heart muscle." The statement contained in the first sentence, involving, at it does, a rigorous regimen and treatment as indicated in the sentence following, should, to have the weight it deserves, if true, and apparently intended, be substantiated by the quotation of statistics, or, at least, of a sufficient number of cases to make it of practical value. The feasibility of collecting such statistics appears when we consider the thousands of visitors who frequent both health resorts referred to and the number of capable and reliable medical men there resident. Having spent four weeks in Nauheim last summer, I venture to give the result of such information on this matter as I was enabled to gather.

Being at the time practically at leisure, I made it my business to inform myself as thoroughly as circumstances would allow regarding Nauheim methods of treatment and the frequenters of its baths. Of course, my attention was not specifically directed toward learning how many visitors came or were sent from Carlsbad, after taking the cure there. Now, considering that during the Carlsbad season, extending from the middle of June to the middle of August, it harbors over 20,000 visitors, and Nauheim from the middle of May to the end of September over 10,000 visitors, a fair percentage of both classes being Americans, it is significant, although I repeat my inquiries were not specifically directed to the subject, that I was never informed that Nauheim physicians were wont to have Carlsbad patients referred to them or that Carlsbad patients, after completing their cure, were wont to resort to Nauheim on

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account of impairment of heart function. If a migration from Carlsbad to Nauheim had become "customary," would it not be current knowledge, obtainable without specific inquiry?

My chief reason for challenging Dr. Manges' quoted statement is that it reflects, evidently without intention, unfavorably on our Continental colleagues. It implies an indifference to their patients' greatest good, entirely inconsonant with their well-known unselfish conscientiousness. It is rendered improbable when we consider how persons select their respective baths. About to visit a "Kurort," the patient consults his family physician or an authority of his native or the nearest university town, as to the appropriate one. He is subjected to careful examination and receives his directions. Arrived at the "Kurort," the patient places himself under the care of a "Badearzt," who supervises his "cure." By him he is again subjected to examination. The cure at Carlsbad is known to the laity even to be a trying one, from which individuals with weak constitutions are barred. Is a physician, then, likely to ignore this fact in the case of a patient with a weak heart Is the "Badearzt" likely to allow a person to undergo a reduction cure whom he finds suffering from symptoms (not difficult to recognize) of an incompetent heart? The professed object of the cure being to add tonicity to the heart-muscle while superfluous fat is gotten rid of, no patient would be allowed to take the cure in such a manner as to weaken that organ.

But supposing, for argument's sake that the heart-muscle has been weakened. The "Badearzt," in recommending a resort for after-cure, would more probably place his patient under the invigorating influence of a "Luftkurort," as, in fact, I am informed, is generally done, than to subject him to the further initial depressing effect of the Nauheim cure and climate. For physicians at Nauheim, generally, admit that the primary effect of the baths are depressing, and, in consequence, insist on having trained and experienced attendants accompany their patients during the first few baths. Evidently Dr. Manges has reference to this primary depressing effect when he states further on in his paper: "Such . . . serious disturbance of a compensation which might otherwise have kept the patient in reasonably good condition for years, . . . has even occurred at Nauheim itself and patients have been worse on their return from a voyage that they hoped would be a source of the greatest good."

Charles Schram, M.D.

1074 Madison Avenue. New York,
March 14, 1900.

Insanity Expert Insane.—Dr. Richard S. Dewey, who was formerly head of the Kankakee Insane Asylum and recently in charge of a sanatorium at Wauwatosa, Wis., is insane and under restraint. Dr. Dewey originated the cottage system, under which insane patients were divided into different classes.

OUR LONDON LETTER.

[From Our Special Correspondent.]

LONDON, March 17, 1900.

ALLEGED DEFECTS IN HOSPITAL SERVICE AT THE CAPE—WOUNDS NOT DRESSED FOR THREE DAYS—OFFICIAL UNWILLINGNESS TO USE VOLUNTEER NURSES—GENEROUS RESPONSE OF NURSES AND DOCTORS AT LADYSMITH—AN ASTONISHINGLY "TRAVELED" BULLET—REGRETS AT THE RETURN OF SIR WILLIAM MAC CORMAC AND MR. TREVES—ROYALTY AND REFORM—THE PHOSPHORUS COMMISSION.

Two of the colonial newspapers, one at Cape Town and one at Pietermaritzburg, have made charges of negligence and inadequate equipment against one or more of the base-hospitals at these two places. The charges are very similar in both cases, that wounds are left undressed for days, that nurses are too few, and that there are both shortage and red-tape difficulties in the availability of hospital-supplies. That there is nothing vitally serious in the charges is easily seen by their investigation and almost complete refutation in person by Sir William MacCormac and Sir William Stokes respectively, but that there was a slender basis for them of a curiously mixed character seems to be more than half admitted. The shortage in the Army Medical Corps, so striking in the case of the medical officers, extends to the rank and file, and medical correspondents frankly state that at the Cape Town Hospital the staff of attendants is seriously overworked, and that certain wards are in consequence practically without attendance after 5 P.M., in spite of the fact that the attendants average only three nights in bed each week. And yet the Department is said to be refusing the services of scores of volunteer nurses, both trained and untrained, on the ground that it can not provide proper accommodations for them, and also, apparently, for fear that their presence in a military hospital will in some way imperil the preservation of that sacred fetish of officialdom, discipline. What happens when the military authorities abandon this attitude of aloofness from volunteer assistance has been well shown at Ladysmith, when, upon the raising of the siege, a single telegram from the principal medical officer, asking civilian physicians and nurses in Durban and Pietermaritzburg to volunteer for immediate service there to relieve the fearfully overworked staff, was responded to at once by nearly double the number of offers of service that could be made use of.

Part, however, of the charges against the hospitals made by *The Times of Natal* appears curiously enough, to be based upon a misunderstanding of modern methods of wound-treatment. Because a wound has not been dressed for three, four or five days, even although it be dry and free from either discharge or pain, or "covered by a patch of dried and clotted blood," the pitying reporter is sure there is shameful neglect

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somewhere and rushes into print accordingly, not realizing that the perfection of aseptic wound-treatment lies in the extent to which it can let well enough alone and not interfere with the first dressing, even although this has been applied in the field, so long as the wound is doing well under it.

An extraordinary case of "traveled" bullet is just reported from Northampton as one of the casualties of the last Transvaal war: A trooper was wounded at Majuba Hill, in the upper part of the chest near the shoulder, and, as the bullet could not be located, it was left in the tissues. A few days ago the man noticed a lump in his thigh and on seeking advice the bullet could be plainly felt and was accordingly taken out just below the hip-joint. This, if correctly reported, must be added to the "echoes of Majuba Hill" of which we have heard so much.

The nearly simultaneous return of both Mr. Treves and Sir William MacCormac from South Africa is causing general regretful comment, as it robs the consultant staff at the front of by far its two most distinguished members. Especially is this regret felt in Sir William MacCormac's case, as it is feared that the fatigues of active campaigning have proved too much for his strength at his comparatively advanced time of life, and that he is returning largely upon that account. Mr. Treves' health has also suffered from attacks of the prevailing dysentery, but he is reported as practically recovered, and his return seems to be due to important engagements which were annnounced some time ago as necessitating his return in March. At all events, both these gentlemen can have the satisfaction of feeling that they have borne the brunt of the heaviest work and organizing of the medical part of the campaign, and that probably the result now is only a question of time and a comparatively short time at that.

The advantages of royalty as a figurehead in various reforms was strikingly shown last week in the admirable speech of the Prince of Wales at the opening of the splendid model buildings and dwellings, built by the London County Council in one of the worst slums of the East End—Boundary Road. His Royal Highness' presidency of the Association for the Prevention of Consumption and of the Hospital Fund which bears his name may possibly be set down as matters of form and the duties of his high position, but in this instance his presence was due to a genuine personal interest in and practical experience with the problems involved. Not only has he been an active member of at least one Royal Commission on Housing, but he was one of the earliest shareholders in the schemes for the erection of model dwellings which have borne such magnificent fruit in London of late years, and he has built model cottages for the farm-laborers upon his estate at Sandringham. So that his cordial endorsement of the vigorous action of the County Council in these directions comes with double force and is expected to much stimulate both Parliament and the Government to drastically improve upon the very imperfect bill already commented upon, which is now before them. He especially urges the necessity of having the responsibility for the insanitary condition of dwellings brought home definitely to some one person or party who may then be dealt with accordingly, as under the present complicated condition of English property tenures it is often impossible to find out who is responsible for a given building. The Prince himself has had practical experience with the difficulty in his determined attempts to reform the condition of his own property in Lambert, which he has so far found impossible on account of the long leases and complicated system of subletting which prevent his fixing the blame definitely upon any one or even calling them to account if he could do so. To this end he advocates compulsory registration of owners of all such properties and far less generous treatment of them in condemnation and clearance schemes, the present enormous expense of which actually puts money in the pockets of the guilty parties.

The Government Commission upon the Prevention of Phosphorus Neurosis is making excellent progress during its present session and sustaining the excellent regulations proposed by the Home Office as to mutilation, cleanliness, and the regular supervision of the work-people by competent dental experts against the protests of the manufacturers. Many of the latter, it is also gratifying to note, are announcing the accomplished or prospective adoption of processes which will do away with the use of yellow phosphorus altogether in the greater part of the work, but, unfortunately, they are making these amendments the ground of an opposition to the new regulations as being superfluous. We fear that under the circumstances their "improved processes" must be looked upon with suspicion for the present.

TRANSACTIONS OF FOREIGN SOCIETIES.

British.

RESPIRATORY JACKET FOR EMPYEMA—UNUSUAL SYMPTOMS OF RHEUMATISM IN A CHILD—HEMOTHORAX OF UNEXPLAINED ORIGIN—SUCCESSFUL SUTURE OF DUODENAL ULCER—STRICTURE OF THE SMALL INTESTINE FOLLOWING STRANGULATED HERNIA—PATHOLOGY AND TREATMENT OF PNEUMONIA—PARASITE OF CANCER—OPERATIONS FOR GASTRIC CARCINOMA—HAVE NERVOUS DISEASES INCREASED?—THE REAL POSITION OF THE STOMACH.

AT the Medical Society of London, February 12th, EWART exhibited an automatic respiratory jacket for applying continuous pressure to the chest in cases of empyema. It was intended to be worn night and day. A boy who had worn such a jacket for six weeks was also showed. His symptoms had improved and his chest measurements had decreased.

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E. H. WILLOCK showed an apparatus for the same purpose, which was not to be worn all the time, but could be used to obtain pressure intermittently. The patient so treated expectorates more freely for a day or so, and then the expectoration is decreased and the symptoms improve.

W. J. HADLEY exhibited two little girls, aged eight and nine years, who presented unusual symptoms of rheumatism. The first had had three attacks of ordinary polyarticular rheumatism, and later an attack causing lasting deformity and stiffness of most of the joints, due, according to the skiagrams taken, to soft tissues, the bones showing little variation from the normal. This was, therefore, a typical case of rheumatic arthritis occurring in a child. Antirheumatic remedies had proved useless but the joints improved somewhat under the influence of daily massage and sweating. The other child gave a history of chorea, although not of arthritis. After some days of irregular pyrexia, a presystolic mitral murmur and a systolic aortic murmur made their appearance. Later the occurrence of sudden pain in the left arm, with tenderness and other symptoms, made it almost certain that an embolus had passed into the brachial artery. The radial artery became pulseless.

At the Clinical Society of London, February 9th, H. D. ROLLESTON spoke of a fatal case of hemopneumothorax of unexplained origin. A man, aged twenty-one years, in apparently good health, was seized with an attack of abdominal pain and diarrhea lasting two days. There was then agonizing pain in the right hypochondrium, radiating to the umbilicus and right shoulder. The next day his right chest was tapped and air and blood came out. In a week he died, and the right pleural cavity was found to contain 60 ounces of blood, but no air. The necropsy was performed in the most careful manner, but no evidence of tubercle, pleurisy, hemophilia, scurvy, hepatic cirrhosis, aneurism, or traumatism could be detected. In fact, the cause of the hemorrhage and air could not be found.

N. PITT narrated an obscure instance of hemopneumothorax in which, perhaps, an emphysematous bulla had ruptured.

H. FOX told of a man, aged forty-four years, in robust health to all appearances, who was suddenly taken with pyrexia, pains in the chest and signs of pleuritic effusion. He was twice tapped and blood and air withdrawn. The patient was sent away for a voyage, and completely recovered and has remained well ever since. It was noteworthy that three other men employed in the same office broke down with tubercular disease of the lungs.

J. J. PERKINS and C. S. WALLACE reported a case of successful suture of a duodenal ulcer which had perforated into the abdominal cavity. It is rare that operation under such conditions has been followed by recovery, and, curiously enough, it is still rarer that the diagnosis has been made before the abdominal cavity has been opened. Their patient was a man, aged fifty-two years, who after three days of epigastric discomfort was seized with sudden intense pain without vomiting. The correct diagnosis was made, the abdomen was opened through the right rectus muscle, and the duodenal perforation closed by two sutures in two rows. There was little fluid in the abdominal cavity, but the intestines were turned out and irrigated. A slight gauze drain to the site of perforation was left in the abdomen.

A. BARKER protested against the evisceration and irrigation which had been employed. He considered it far safer to wipe out the fluid as well as possible and to leave the rest to the absorptive power of the peritoneum. Even when extravasation is widely diffused, it is possible to clear out both flanks and other parts of the peritoneum by strips of antiseptic gauze.

J. C. SYMONDS agreed that evisceration adds to the risk of an operation. Not to flush out the abdomen in any case is perhaps going to the opposite extreme. Probably flushing and mopping out with gauze without removing the intestines is the safest procedure.

T. H. KELLOCK reported a death from stricture of the small intestine following strangulated hernia. At operation the intestine was in such good condition that it was replaced in the abdominal cavity. For three months the patient suffered at times from pain and constipation, and then the symptoms became so severe that the abdomen was opened. The loop of intestine which had been caught in the hernial sac was constricted and adherent to the omentum. The omentum was separated from it, and a lateral anastomosis was made between the afferent and efferent parts of the loop. The patient died, not because of any failure of the anastomosis, but because the loop of intestine went on to gangrene and set up a fatal peritonitis. Apparently, the mesentery of the bowel had been severely affected at the time of the strangulation of the hernia, and after its return to the abdominal cavity the nourishment of the bowel had taken place through the omental adhesions. When these were divided gangrene followed.

At the Liverpool Medical Institution, January 25th, N. RAW read a paper on the pathology and treatment of pneumonia, based on an observation of 1047 cases during a period of twelve years. The general death-rate of the whole series was 23.4 per cent. During the past three years 317 cases of pneumonia were admitted into the Mill-road Infirmary and the death-rate was 34 per cent. Some of the patients were moribund when admitted. There seems to be no reason to doubt that the disease is due to a specific micro-organism, the diplococcus of Fraenkel, influenced by changes in temperature, and a lower power of resistance in the individual. After reviewing the various forms of treatment employed in the past and at present, the speaker gave it as his opinion that no specific form of treatment influences the progress of the disease or in any way cuts it short. He believes that the treatment

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of the future will be antitoxic, the serum being obtained from convalescent patients or from immune animals.

W. CARTER said that on clinical grounds one must recognize two different forms of pneumonia, (1) simple and tending to recovery, and (2) septic and very dangerous. The intensity of the disease varies in different years, having been greater in 1881 under the influence of the small-pox epidemic, and at the present time under the influence of the epidemic of influenza. He mentioned one condition in which opium is of benefit, namely, after a drop in temperature of 6° or 8°, with the onset of active delirium. The induction of quiet sleep will do much good. At all other times opium is harmful.

February 8th, the discussion was continued. C. J. MACALISTER, referring to the serum treatment of pneumonia, thought that the argument that the crisis resulted from the production of antitoxin, and that immediate relapse was thereby rendered unlikely, was not maintained in the case of bronchopneumonia, for fresh patches of pneumonia succeed one another, and in croupous pneumonia one attack seems to predispose to another.

J. HAY referred to the influence of the alcoholic habit upon recovery, saying that out of 100 cases which he had watched, two-thirds of the patients who died were alcoholics. He considered valvular cardiac disease to be of less importance in an attack of pneumonia than a degenerate myocardium.

A. E. DAVIS thought that with careful nursing and treatment, the mortality in pneumonia should not be over 10 per cent. He advocated treatment by carbonate of ammonium and brandy, and thought opium and other narcotics harmful.

In closing the discussion RAW said that he had included all forms of pneumonia in his statistics. The death-rate of genuine lobar pneumonia is probaly about 12 per cent. Carbonate of ammonia is a most useful expectorant and stimulant, and a combination of chloral and digitalis is helpful and soothing. Strychnine is the most valuable heart stimulant. Oxygen is of little value. Many patients require no alcohol, while others need it and are greatly helped by it.

At the meeting of February 15th, K. MONTSARRAT read a paper on the parasite of cancer, stating that he had isolated organisms from a carcinoma which he had succeeded in growing upon various nutrient media. Inoculations from these cultures made into the peritoneal cavity of guinea-pigs had been followed by carcinoma of the peritoneum and of various internal organs. In these growths parasitic organisms were found in abundance and were again cultivated. While not claiming that the parasitic theory was proved, the reader of the paper said that it afforded a good working hypothesis. He explained the similarity of primary and secondary growths by supposing that the cells of the parent tumor migrated, carrying with them the parasites, and in this manner the structure of the secondary growth was determined. These parasites appear in a variety of forms, according to the circumstances, but morphologically they seem to be identical with the "cancer-bodies" already described.

At the meeting of February 22d, R. PARKER spoke of some recent operations upon the stomach for malignant disease. Gastrostomy by Frank's method was four times performed. Two patients died in six months of phthisis, one in a week from bronchitis, and one in three months from syncope. He considered gastrostomy the least satisfactory of temporary operations upon the stomach. Four gastro-enterostomies were performed with success. Two of the patients were holding their own, and two were growing worse from extension of the disease. No appliances were used, but two rows of sutures were inserted, one through the mucous membrane and one through the peritoneum. Excision was twice performed. One patient, whose tumor was shown microscopically to be a carcinoma, was apparently well two years after operation, and the other patient was well a year after operation; but the microscopical examination of the tumor in the latter instance showed it to be a gumma.

F. T. PAUL thought that there is danger of the escape of intestinal contents into the stomach after gastro-enterostomy, especially if the opening is made posteriorly. He considered the operation inferior to pyloroplasty as a means of temporary relief.

At the Edinburgh Medico-Chirurgical Society, February 7th, W. W. IRELAND took up the question of the increase of diseases of the nervous system which, according to Professor Erb, has been going on for the last thirty years. He considered that the strain of life to-day falls most heavily on the middle classes. But there are many compensations in the way of more secure existence, more frequent amusement, less drunkenness, etc. Ireland had addressed many letters to physicians to learn whether nervous diseases have been on the increase. Most of the physicians replied that they saw no evidence of such increase. A few, from the large towns, thought there had been an increase in the lighter forms of nervous trouble, such as neurasthenia. Monotonous work demanding severe and unremitting attention, such as telegraphy or checking mechanical labor, is most trying to the nerves, and nervous and mental breakdowns are relatively common among persons who pursue such occupations.

At the Royal Academy of Medicine in Ireland, February 2d, BIRMINGHAM discussed the form, position, and relations of the stomach as he had found them in bodies hardened by the intravascular injection of formalin. The empty stomach is contracted, not collapsed, and its pyloric portion resembles thick-walled intestine. Its cardiac portion is rounded and attenuated, and its long axis is nearly horizontal. The transverse colon is doubled up over the empty stomach, and lies between it and the diaphragm. In the

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first stage of dilatation, the fundus and cardiac portions are expanded, while the pyloric portion remains contracted, and the lesser curve is bent sharply, as in the empty state. In the second stage of dilatation, the pyloric portion opens out, but the distinction between it and the cardiac portion is still well marked. In the third stage of dilatation, this distinction is nearly obliterated. All the axes of the stomach are then enlarged, and the pylorus is carried an inch or two to the left of the median line. There is no rotation around the long axis with raising up of the greater curvature, as is usually described. The distended stomach lies obliquely, its long axis not vertical, as has been taught in recent times, but making an angle of 40° to 45°.

SOCIETY PROCEEDINGS.

THE NEW YORK ACADEMY OF MEDICINE

Stated Meeting, Held Thursday, March 1, 1900.

The President, William H. Thomson, M.D., in the Chair.

The subject of the evening was the continuation of the discussion of cancer.

Cancer of the Larynx.—Dr. D. Bryson Delavan said that cancer of the larynx is very rare. Its most frequent form is epithelioma. The most important consideration with regard to the affection is its early and certain diagnosis and radical removal. The operation for radical removal of cancer of the larynx is undertaken by but few. The diagnosis of the condition is demanded of many physicians, and even the general practitioner should be familiar with the symptoms which raise a suspicion of beginning laryngeal carcinoma, so that the very important early stage, when radical removal is comparatively easy, may not be passed over. It must be confessed that very little progress has been made in this subject of cancer of the larynx during the last twenty-five years, except as regards surgical procedures. J. Solis Cohen's suggestion regarding the removal of the whole larynx and the attachment of the trachea to the cervical wound is the most important contribution to the treatment of laryngeal carcinoma during recent years. Early recognition of laryngeal carcinoma is one of the most difficult problems in diagnosis. It is extremely important because the neglect of it costs life. At first there is hoarseness. This may last for months, seemingly without cause. In people over forty, continued hoarseness for which no cause can be found should give rise to suspicion. The first sign on the vocal chords is usually an infiltration, small in amount; then a swelling is noted, sometimes diffuse, sometimes papillomatous in character. Finally, there occur two signs that are more or less pathognomonic, these are sudden lancinating pains and loss of motion on the affected side. The pain is very different from that of ordinary sore throat, as patients will usually tell their physician of their own accord, or at least, will do so if questioned about the matter. The loss of motion is due to infiltration of the muscles attached to the arytenoid cartilages. This loss of motion may simulate paralysis or anchylosis of the joints of the arytenoid cartilages. When the infiltration and swelling of the vocal chords is noticed, two things require to be differentiated, tuberculosis and syphilis. Tuberculosis can be excluded by a careful consideration of the history of the patient, by an examination of the lungs, and by the investigation of the sputum for tubercle bacilli. Syphilis may be excluded by the history and, especially, by the therapeutic test of yielding promptly to antisyphilitic treatment. Two to three weeks of treatment suffices to make the decision. Where doubt remains as to the character of the tumor a part of it may be removed and examined under the microscope. As is easy to understand, this may often be misleading. A notable example is that of the late Emperor of Germany. So great a pathologist as Virchow himself examined the portion of tissue that had been removed from the Emperor's throat, yet he failed to find epitheliomatous appearances. The reason for this is obvious. The portion removed may easily be only normal mucous membrane from above the tumor, or it may be laryngeal tissue distorted by the neoplasm but not yet infiltrated with epitheliomatous cells. There are two objections to the removal of a portion of a growth for microscopic examination. The first is that a serious injury of the larynx ensues from the removal of the tissue, and, secondly, irritation tends to accelerate the growth of the neoplasm and this seems to be especially liable to happen in carcinoma of the larynx.

Exploratory Thyrotomy.—Where there is long-continued hoarseness without cause and severe lancinating pain and loss of motion in one or both chords, grave suspicion should be entertained of the presence of malignant neoplasm. If, in addition to these signs, a tumor is found suspicion becomes almost assurance. There is no doubt that in these cases Butlin's advice seems completely justified. When such a tumor is present it should not be allowed to increase too much in size before surgical measures are taken, and an exploratory thyrotomy should be advised. The operation is not dangerous and makes the diagnosis absolute. The improvement in the technic of operations for removal of portions of the larynx of late years has made the results very encouraging. One-fourth of a larynx can be removed without seriously inconveniencing the patient for after life. A patient from whom three-fourths of the larynx was removed three years ago by Dr. Curtis is now able to talk reasonably well and seems only to be suffering from hoarseness. He has been able to resume his occupation and considers himself to be in excellent condition.

In discussion, Dr. B. Farquhar Curtis said that he performed the operation on Dr. Delavan's patient some three years ago. After the removal

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of the larynx he packed the cavity for twenty-four hours, then removed the packing and allowed the patient to take food, his head being held over the end of the bed while he swallowed in order that no food might be aspirated into the lungs. The wound healed very nicely, but the formation of the false vocal cords after the operation took a longer time than usual. There was a certain redundancy of mucous tissue which formed folds, thus causing symptoms of stenosis. About a year and a half after the primary operation, a secondary minor operation was done which relieved this stenotic condition, and at the present time the new vocal chords function very well. The patient talks as if he were very hoarse, but is able to carry on his ordinary avocations and to make himself perfectly understood. He is, in fact, in no worse condition that a man with a bad cold.

Cancer of the Stomach.—Dr. B. Farquhar Curtis said that while cancer of the larynx is very rare, cancer of the stomach is very frequent. It represents over twenty per cent. of all the cancers that occur. In men over one-third of the cancers are gastric, in women only 13 per cent. Of late the mortality of operations for gastric cancer has grown constantly less and less. Professor Woelffler of Prague has collected the statistics of 173 cases of gastric cancer operated on by the best German surgeons. The mortality was 31 per cent. This is for operations done during the last ten years. Twenty years ago the mortality was as high as 60 to 80 per cent. Some operators have at present as low a mortality as 25 per cent. Many of the cases were radically cured. Three of them were alive at the end of four years, four at the end of five, one at the end of six years, one at the end of seven years, and three at the end of eight years. This set of statistics constitutes a good proof that in selected cases operation is a radical cure for cancer of the stomach. Early diagnosis is indispensable for successful radical operation. Patients may be divided into those who have a tumor and those without a tumor. Patients with a very large tumor used to be considered inoperable. This is no longer the case. A patient from whom a very large tumor was removed by Dr. Curtis is still alive at the end of two years. If the tumor is freely movable the prognosis is better, but an immovable tumor may be operated on successfully if it is only bound down by inflammatory adhesions which can be readily broken up. Cancer of the stomach is usually in the pyloric region. It must not be forgotten, however, that the mesenteric attachment of the pylorus may become very much stretched and the tumor displaced. It may even be found in the cecal region. When a tumor is found, gall-stones should be carefully excluded, as they may easily produce a hard, nodular feeling that simulates cancer.

Diagnosis without Tumor.—The majority of cases of cancer of the stomach come to the physician at a time when no tumor can be felt, the reason being that the tumor is hidden either behind the liver or beneath the ribs, or is very small and escapes palpation. The suspicious symptoms of cancer then will be vomiting, hematemesis and pain. These symptoms are not, however, at all pathognomonic. Benignant stenosis of the pylorus and ulcer of the stomach may cause them quite as well as cancer. Other symptoms, then, must be looked for to make the suspicion of malignancy sufficient to justify diagnosis. Dilatation of the stomach is not common with malignant disease. Stricture of the pylorus develops but the stomach has usually not been in a sufficiently healthy condition for dilatation to have taken place above a cancerous stricture. The presence of a dilated stomach, then, is presumptive evidence of a benign process. There are exceptions to this rule, but it will usually be found that the cancer in the cases where dilatation has developed arose on the site of an ulcer which had previously caused some stricture of the pylorus.

Chemical Diagnosis.—This is our most valuable auxiliary in cancerous affections of the stomach. The most important element in this method of diagnosis is the presence or absence of hydrochloric acid. The absence of hydrochloric acid strongly confirms the suspicion of the presence of a cancer. In a recent series of over 105 cases in Italy, hydrochloric acid was absent in over 80 per cent. of the cases. Other investigators declare that it is absent in 90 per cent. of cancerous involvements of the stomach. Lactic acid was claimed by Boas to be pathognomonic of cancer. His conclusion in this matter has not been confirmed by the observations of others and, moreover, the presence of lactic acid it not an early symptom and so is not helpful for a diagnosis at the stage when it is most needed.

Digestion of Albumen.—This constitutes one of the most important diagnostic signs of cancer of the stomach. Cancer leads to an atrophy of the gastric glands and this causes a delay in the digestation of albumen or a complete loss af the faculty. Hemmeter says, however, that where only small tumors exist, not enough of the stomach glands are affected to cause any notable diminution in gastric secretion and consequently not in albuminous digestion. There is often great motor insufficiency of the stomach. This occurs even when there is no stenosis of the pylorus, the cancerous tumor being on the anterior or posterior walls. The presence of the tumor seems to interfere with normal peristalsis in these cases. Benign stenosis of the pylorus is accompanied by an increase of hydrochloric acid. Symptoms of stenosis, then, where no hydrochloric acid is present, point in at least 75 per cent. of the cases to the existence of cancer. It is often said that portions of the growth may be obtained for microscopic examination. Theoretically this is a most certain way of making the diagnosis, but it is extremely difficult to secure satisfactory specimens. There is a bacillus described by Oppler and Boas which is said to occur constantly in the stomach when cancer is present. Its discovery is at least confirmatory of other signs.

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Practical Rules.—If a tumor of the stomach is discovered operation should be advised if there are any other suspicious circumstances. Either a cancer will be found, or sometimes the thickened base of an ulcer. In either case the condition may be relieved by operation. If symptoms of stenosis are present, a laparotomy should be done in order either to remove the cause by radical operation or a gastro-enterostomy to relieve symptoms. If dilatation of the stomach exists, operate, for the gastroptosis can also be relieved. If the patient has lost a good deal of weight from no obvious cause, if there is a decrease of hydrochloric acid and lactic acid present, an exploratory laparotomy is certainly justified. If blood is frequently vomited an operation should be done. Frequently recurrent pain of an intense character justifies operation. There is danger in operating for pain alone, since this may prove to be due to a neurosis of the stomach. Even a neurosis, however, has been known to be cured by laparotomy and in two cases operated on recently by Dr. Curtis himself, although nothing was found that might be considered causative of the pain except a highly neurotic condition of the stomach, both were relieved by the operation. If there should prove to be no cancer, not only will the operation do no harm but it will almost surely do good. Surgeons have come to the realization that there is a large field for surgical intervention in benignant affections of the stomach. Czerny has reported 77 cases where he operated for benign tumors. It must be remembered that there is considerable danger of ulcer of the stomach leading to the development of cancer. Rosenheim reported 2 cancers out of 50 cases of ulcer of the stomach that had developed during four years of observation. There are now many such cases in literature. Operation for ulcer of the stomach which is giving severe symptoms is really often the best prophylactic for cancer.

Supposed Contraindications.—The mere size of the tumor is never a contraindication. Even extensive adhesions do not contraindicate operative intervention. Where the tumor is adherent to the liver, to the pancreas, or to the transverse colon, portions of these organs may be removed. This increases the danger of the operation, but does not absolutely forbid it. Gastro-enterostomy for the pain of cancer of the stomach is an illusion. The pain is not due alone nor even principally to the pyloric stenosis, but to interference with sensitive nerve-endings in the stomach. This merely palliative treatment has of itself a mortality of nearly thirty per cent. and the results to be gained from it never quite justify the operation. Where the stenosis is very marked and radical operation is out of the question, gastro-enterostomy may be done to relieve the symptoms of obstruction and will give excellent results.

Intestinal Cancer.—Cancers of the duodenum are usually sharply defined in outline and there is no need to cut far away from the edge of the tumor. In the intestine generally the lymphatics run around the gut, not lengthwise. The progress of the growth, then, is in the shape of a ring, but it does not extend much along the intestine. There is consequently a chance for the permanent cure of cancer of the intestine even in old cases where the symptoms have been noted over years. Cancerous stricture of the intestine may give rise to the symptoms of sudden obstruction. The stricture may be of so small a caliber that a cherry-pit or an apple-seed will close it up completely, and yet there may have been no symptoms before the complete obstruction, except recurrent constipation. This constipation in elderly people, with attacks somewhat simulating obstruction which are relieved by purgatives, is always suspicious. The pain of intestinal cancer may be as severe and have all the symptoms of intestinal colic. The most prominent symptom is complete obstruction of the intestine. A subacute form may have developed several times before the severe form of the affection. The attacks are repeated with shorter and shorter intervals. With a history of this kind, very careful examination should be made in order to discover the presence of a tumor. Where the cancer is in the colon, especially if low down, ribbon-like stools may occur; or the small rounded scybalæ, called goat-stools, may be found. At times, of course, there will be mucus or pus in the stools, according to the amount of irritation set up by the cancer. Patients do not, as a rule, die of the cancer, but from acute or chronic obstruction. The symptom of bloody stools may be due to so many conditions that it has very little value for diagnostic purposes.

Cure of Intestinal Cancer.—Under present day auspices in surgery the cure of intestinal cancer is by no means rare. Of 18 cases operated on by Czerny 56 per cent. recovered. Even this mortality is higher than it should be. Operations should be done before intestinal obstruction weakens the patient and before the tumors are large. When tumors are small, even although malignant, the shock of removal is very slight. Colostomy and anastomosis must yet have a prominent place as palliative measures for intestinal cancer. Diagnosis cannot be made early enough to make radical removal always possible. Exclusion of a loop of intestine, or the closing of one end with the opening of the other on the skin, may, in suitable cases, prove of the greatest service to the patient.

Inoperable Cancer.—Dr. William B. Coley said in a paper on this subject that the best treatment for cancer is early and complete removal of the malignant growth. There are cases, however, that become inoperable before the surgeon sees them. To operate rashly on such patients is to invite an almost immediate fatal termination which will deter others suffering from cancer and as yet in an operable condition from submitting to operation. There has been undoubtedly a rapid increase of late years in the number of cases of cancer. Despite surgical procedures three-fourths of them eventually become inoperable.

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Some therapeutic measures for inoperable cancer, then, would be most welcome. The administration of thyroid gland, with the removal of the ovaries, in carcinoma of the breast, has been tried in a number of cases. In some of them a good deal of improvement took place, so that it was said we would have to look to the ovaries for the cause of cancer. Further investigation of the subject, however, has not confirmed the preliminary good report. Some good is done, but not much. The injection of alcohol into malignant tumors gives little encouragement.

Inoperable Sarcomata.—The mixed toxins of erysipelas and the bacillus prodigiosus are undoubtedly of service in the treatment of inoperable sarcomata. Round-cell sarcomata are not affected as much by them as are spindle-cell sarcomata. Melanotic sarcomata are affected least of all. In children and delicate persons it is well to filter the toxins so as to administer only the chemical products of the bacilli and not the bacilli themselves. Of course, in no case are the living bacilli injected. The cultures from which the toxins are obtained must be virulent. They should be kept virulent by passage through animals from time to time. The mixed toxins undoubtedly increase the liability to septic infection, so that the hypodermic needle by which they are administered should be very carefully sterilized. Usually it is easy to decide within three or four weeks after the beginning of the injections whether or not it is worth while to go on with them. There are two ways in which the tumors disappear; the first is by sloughing, when the tumors are large, succulent, and mostly composed of cells. Fibrous tumors disappear by resolution and absorption. The toxins may be given for long periods without any harm resulting. They have been given at intervals for two and a half years without causing any serious inconvenience. A spindle-cell sarcoma recurred eight times during four years and each time disappeared under treatment. The patient was a physician and now, six years after the last injection, is perfectly well. So many cases have been treated successfully that now there does not remain the slightest reason for thinking that the tumors were of some other nature than sarcomatous and disappeared in the ordinary course of events. The diagnosis sarcoma has been confirmed by the most typical clinical signs in all cases and in many by microscopic examination of excised sections. Dr. Coley himself has treated 140 cases. Of these 84 were round-cell sarcoma; 3 were completely cured and 40 were improved for some time; 21 were spindle-cell sarcomata, of which 10 disappeared completely, and all were markedly improved by the treatment; 9 melanotic sarcomata were not much affected. Altogether there have been 50 complete successes at the hands of all observers. Risk from the injection of the mixed toxins is practically non-existent. Of 230 cases reported there have been 2 deaths. The treatment is used only for absolute hopeless cases of sarcoma and the statistics of cure are more than 10 per cent. The mixed toxins should be used in small doses after operation for the radical removal of sarcoma, in order to prevent recurrences. Surely if the injections can cause the resolution and absorption or the suppurative disappearance of large sarcomatous tumors, they can prevent the growth of the small portions of sarcomatous tissue which may be left behind after operation and so save the patient from the dangers of recurrence.

THE HARVARD MEDICAL SOCIETY.

Stated Meeting, Held, Saturday, February 24, 1900.

The President, JOHN B. WALKER, M.D., in the p. 466.)

Treatment of Whooping-Cough.—Dr. Henry Coggeshall read a paper on this subject. (See p. —.)

Complications.—In the discussion Dr. Daniels said that bromoform seems to give the best results for the treatment of the disease itself. Insufflations of various powders have proved to be of no benefit. The dangers to be feared in whooping-cough come from the complications and treatment should be directed to preventing their occurrence. Good hygiene and plenty of fresh air seemed to be the best remedies for this purpose. The ventilation of the sick-room should be very carefully seen to and the nutrition of the children kept at its acme. It is said by good authorities that whooping-cough is not contagious after it has lasted for six weeks. It is well known, however, that the paroxysms continue after this time. These attacks at the end of the disease are evidently not due to a germ. It is probable, then, that much of the so-called antiseptic treatment of whooping-cough is a mistake, since at a time when there are no germs present the whoops may continue.

Dr. Dillon Brown said that the treatment of whooping-cough is not very satisfactory. The best remedy seems to be belladonna. The amount of this to be given, in the words of an old practitioner, should be "enough." Morphine or codeine should be used to limit the number of paroxysms and their severity. During the intense strain of the paroxysms there is danger of the development of cardiac dilatation. To save the heart as much as possible, then, the patient should be kept in bed during the height of the disease.

Contagiousness of Whooping-Cough.—Whooping-cough is one of the most contagious of children's diseases. The patients should be kept thoroughly isolated. The practice of treating these cases in dispensaries undoubtedly leads to the spread of the disease. As many die from whooping-cough as from scarlet fever or diphtheria. Of course, it is not the whooping-cough itself, but one of its complications, meningitis or

pneumonia, that closes the scene. In very young children the disease is extremely fatal. Dr. Brown has seen three cases in children under a month old, all of whom died. During a paroxysm the children became black in the face and died from asphyxia.

Dr. Brandon said that children suffering from whooping-cough should occupy a large, sunny room, into which plenty of air can be admitted without producing a draft. Another room should be provided into which the patients can be transferred when desired. The children should be kept a half a day in each room, the vacant one being thoroughly ventilated in the meantime. Internally, belladonna, to its physiological effect, with a certain amount of antipyrine and the bromides, to lessen the number of paroxysms, seems the best medicinal treatment. A one-per-cent. spray of resorcin in the nose and throat has been reported to be of service. The inhalation of steam from a steam atomizer is of great value. The vapor of cresoline or of creosote may be added with advantage. A tent can be made by stretching a blanket over an umbrella and beneath this the child, with its mother, may breathe the vapor. The paroxysms are much less under this treatment. It must be borne in mind that the nutrition of the child is of great importance. It should be fed very carefully, then, and if after feeding a paroxysm of cough causes vomiting the child should be fed again.

European Clinical Hints.—Dr. Potter said that Henoch seemed to have confidence in only one drug in whooping-cough and that was morphine. Heubner, his successor as professor of children's diseases at Berlin, recommends atropine. Monti at Vienna advises atropine and morphine. Monti also suggests the use of two rooms. In one of them he burns a certain amount of sulphur and then has the child exposed to the vapor for some hours. He claims excellent results from this method. There are some who consider whooping-cough as a neurosis while others think it an infection. It is very probable that certain neurotic elements always enter into the symptoms and that good can be done by treating any condition from which nervous reflexes may originate. With reference to the etiology of the bronchial pneumonia which so frequently develops during the disease, Monti attributes it to the aspiration of food-particles during the vehement paroxysmal inspirations. This indicates the necessity for keeping the mouth and throat as clean as possible.

In closing the discussion Dr. Coggeshall said that he had used resorcin spray without effect. The fumigation of the sleeping-room by means of sulphur he considers an excellent adjuvant to any treatment that may be instituted. Whooping-cough is not a neurosis nor an infection, but a neurosis *and* an infection, and both conditions should be treated. Cocaine is well tolerated by children and the use of it in four-per-cent. solution as a spray can only be a source of danger when used very negligently.

Alopecia in Hodgkin's Disease.—Dr. Potter reported a case of typical Hodgkin's disease in which the notable feature was complete alopecia. Not only the hair of the head but also the pubic and axillary hair disappeared. The symptom is extremely rare in Hodgkin's disease. There seems to be no mention of it in literature. Death took place from cardiac failure. The heart failure had been preceded by symptoms of enlarged glands pressing on the trachea and nerves of the neck.

Dr. Walker reported a case of Hodgkin's disease in which death had also taken place from the pressure of enlarged glands on important structures in the cervical region.

Dr. Brewer detailed a case in which jaundice, lasting for months and very intense in type, had been preceded by acute pain in the hepatic region. The diagnosis of cholelithiasis was made. An operation was done for its relief, but the gall-bladder was not incised, as no calculi could be felt within it. Some enlarged glands were found in the omentum. One of these was pressing upon the common biliary duct. It was removed, although without any feeling of assurance that it would relieve the symptoms. The jaundice cleared up at once, however, after the operation and has not recurred.

Dr. Lilienthal reported a case of enlarged cervical glands removed by operation. Recurrence took place and some of the enlarged glands were situated within the thorax, so that radical removal seemed impossible. The patient developed a hydrothorax on the right side which, on being tapped, proved to be due to an accumulation of chylous fluid. For two months before death this chylous fluid continued to collect. It was removed every few days. After each withdrawal the chest filled up rapidly. Complete aspiration of the fluid was always followed by relief, but the operation had to be repeated at least twice a week. Finally chylous ascites developed, which also had to be tapped. After this came the fatal termination of the disease.

Dr. Fuller detailed a case of syphilitic liver which had been diagnosticated as cancer. The patient suffered from bloody stools and marked ascites developed. The liver was rough, nodular, hard and very much enlarged. The enlargement melted away, however, under the free use of the iodides. One puzzling symptom in the case for which there seemed no thoroughly satisfactory explanation was the occasional occurrence of gushes of blood from the mouth. These cases are often mistaken for cancer, and Dr. Janeway has pointed out that a hopeless prognosis is often given to patients in whom a course of syphilitic treatment at once begins to have its effect and the case improves very satisfactorily.

Dr. Walker detailed the case of a woman of forty, who for eighteen months had suffered from painful flatulence and loss of appetite and had lost a good deal in weight. She had gone abroad with the idea that a change might do her good. In London she was told that she was suf-

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fering from pulmonary tuberculosis. In France the diagnosis had been intestinal catarrh. She lost twenty-six pounds in three months and returned to this country very much discouraged. One surgeon in New York had pronounced her case to be probable cancer of the liver. Another diagnosed some pathological condition of the gall-ducts. Jaundice was not marked and there was no history of attacks of pain such as would occur with gall-stones. An exploratory incision showed the presence of gall-stones in her gall-bladder. Altogether 583 calculi were removed. She began to improve immediately after the operation, has gained in weight ever since and continues to feel in the best of health.

Dr. Brewer said that a great many cases of gall-stones occur in which pain and jaundice and the ordinary symptoms of the presence of biliary calculi are absent. Kehr declares that 80 per cent. of gall-stones fail to produce jaundice. More than half of them never produce any characteristic symptoms.

REVIEWS.

A Practical Treatise on Diseases of the Skin. By JAMES NEVINS HYDE, A.M., M.D., and FRANK H. MONTGOMERY, M.D. Fifth and revised edition. Illustrated. Lea Brothers & Co., Philadelphia and New York: 1900.

IN reviewing a volume of this character, the difficulty at once presents itself of deciding whether it shall be treated from the standpoint of the specialist or of the general practitioner, and the authors must have been confronted with the same problem in writing it. In striving to harmonize the two points of view, they have perhaps laid their work open to a good deal of criticism from either direction and yet, to one who realizes the magnitude of the task, they seem to have achieved their purpose unusually well. In previous editions the book has enjoyed a wide popularity owing to the reputation of the senior author, and, if actual value is to be the measure of success, the present edition will have a still more extensive circulation. The book has been thoroughly revised and carried up to date by the addition of matter upon such recent discoveries as blastomycetic dermatitis and by the rewriting of most of the other chapters, which contain references to medical literature as late as December, 1899.

Speaking generally the volume is very complete: While the space devoted to Etiology and Pathology is not as extensive as we could wish, it is yet ample for the general practitioner; the Symptomology is in most cases remarkably complete, and if the clinical picture of disease is not as sharply drawn as in some other works it is because of the attention paid to atypical cases. But, when all is said, the parts of such a book that are of especial value to the physician at large are the ones devoted to Differential Diagnosis and Therapeutics, both of which have been treated with great care and skill. The one criticism that we have to offer of the latter is that the authors, in their effort to be absolutely fair in the discussion of disputed points, have not given us the benefit of their own individual experiences and preferences. While almost everything that has really proved valuable in Therapeutics is given, yet not enough distinction is made between methods that have been universally serviceable and others which are never referred to except in text-books. An admirable spirit of conservatism is manifest throughout which cannot fail to inspire confidence, and we are pleased to note the amount of credit given to American dermatologists for original work. The illustrations are numerous and helpful, which latter is more than can be said of most works of this knd.

Practical Text-Book of Midwifery. For nurses and Students. By ROBERT JARDINE, M.D., Edin., M.R.C.S., Eng.; F.F.P. and S., Glasgow; Physician to the Glasgow Maternity Hospital. New York: The Macmillan Company. Edinburgh: William F. Clay. 1899.

BASED upon the lectures given to the nurses in the Glasgow Maternity Hospital, the work is admirably adapted to the purpose for which it is primarily intended, the teaching of nurses in training schools. The author has succeeded in presenting scientific truth in a manner at once interesting and easily understood by the merest beginner in midwifery. There are many excellent features of the work, not the last of which is the chapter on "Antisepsis and Asepsis." Careful consideration is given to this most valuable part of the nurse's training. We are not in accord with the author in the use of turpentine and carbolic acid, as we believe that other antiseptics, such as lysol and bichloride of mercury, are much to be preferred. The more difficult subjects of "Presentation," "Position," "Labor and Its Management," are presented simply and very clearly. In the chapter on "Care of the Mother and Child," we should advise that, before the use of the catheter, the patient be allowed to sit in a partially upright position, as recommended by Hirst, a procedure which is often attended with satisfactory results. The second week, in our opinion, is still too early, in the vast majority of cases, to allow the patient to be upon her feet, unless circumstances compel her to do so. We regret that the author advises the use of Schultze's method of artificial respiration in the treatment of asphyxia in the new-born. It is rough, dangerous (as he himself admits), dirty, and in no way superior to other easier, safer and at least equally effective methods, such as the Byrd-Dew and Sylvester. The treatment of post-partum hemorrhage is clear and concise, and in the choice of a few excellent measures the nurse will be saved from the confusion often attending upon a perusal of some of our text-books. Taken as a whole, we cannot speak too highly of the practical value of this work, and can cordially commend its use in the instruction especially of nurses in our training schools.

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ORIGINAL ARTICLES.

ON CANCER OF THE BREAST.[1]

BY ROBERT ABBE, M.D.,

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WE recur again and again to what was, up to recent times, a dreary subject, the surgery of cancer of the breast; and it would still be monotonously dreary were it not for the rays of light which pierce the gloom and lend hope to the operator and victim. The question whether the surgeon can eradicate a cancer of the breast when it is presented to him in a very advanced stage is open to debate, but as to his power over the dire disease when it is taken early there is a growing feeling that the day has come when we are to be emancipated from the stigma of helplessness.

The study of the causations of cancer is not within the scope of my remarks; that has been dealt with by able pathologists. Some light seems to be dawning on the subject, tending to show a bacterial causation which is sustained by clinical resemblances to other disorders of known bacterial origin, but no noteworthy advance in curing the disease has been the outcome of this knowledge compared to the results of a close study of the anatomical relations of the diseased parts. Here, as in the corresponding study of cancers of the tongue, and other organs, the study of the lymphatic system is paramount in importance. For thirty years the rôle played by the lymphatic channels in causing dissemination has been emphasized, but during the last fifteen years, since the researches of Billroth, Haidenhain and others, and later of Halsted and Stiles, the minute anatomy of the efferent lymphatics from the cancer have given exact demonstration that recurrence is *always* along these lines, and that carefully detailed dissection of them at the time of operation on the breast points the way to the only method of eradication.

Incidentally, additional endorsement is positively furnished to the belief that cancer is, in its early life, a purely localized disease. Thus we have the corroboration of the fact seen in every surgeon's experience, that cancer, as shown in the lip and skin, where there is less active lymphatic circulation, can be eradicated, and immunity is seen to follow for a lifetime.

But there are some regions of the body, the tongue, breast, uterus, etc., where the absorbent channels are so free that the spread of the infection is rapid and deep, hence, more early and active surgical work is needed to accomplish the same end.

Progress toward the cure of mammary cancer has come from the recognition of the following anatomical distribution of the lymphatics:

1. Those which drain the mammary gland directly toward the axilla, through parallel channels in the cellular tissue, coursing from the axillary edge of the gland to the axillary vein, interrupted by occasional lymphatic glands, finally concentrating in several channels lying upon the axillary and subclavian veins, mostly upon its anterior surface and entering the neck at the junction with the jugular.

2. A series extending from the mammary gland directly outward to the overlying skin communicates with the lymphatics of the skin itself.

3. A series from the deep aspect of the gland passes directly to the bed of cellular tissue between the gland and the pectoral muscle, where it is joined by lymphatics emerging from the pectoral muscle, and these together travel toward the axilla upon the pectoral fascia.

4. Another series extends toward the sternum and is associated with the veins, penetrating the sternal part of the pectoral muscle and thus enters the mediastinum.

Clinically, it is observed that the segment of the mammary gland, which is the seat of the disease, determinies which series of lymphatic channels will be most involved. The axillary section receives by far the greater part of the infection. When the superficial part of the breast is first involved, the skin becomes infected and the disease spreads in its lymphatics.

In the pectoral aspect of the gland, the lymphatics upon and beneath the muscle are quickly and profoundly infected, and it is observed that the disease will penetrate against the normal lymphatic current and, in many cases, enter the pectoral muscle, although it was at one time believed that by removing the pectoral fascia the outposts of the disease in this direction were thoroughly removed. In later stages of absorption, the more distant lymphatics of the neck and of the pleura are demonstrated to have been infected.

The entire situation, therefore, presents an orderly progress strictly along anatomical lines, and it is the knowledge of this fact, as we shall see, that has given the great impetus to surgical zeal in attempted extirpation. The phase of the spread of the disease by absorption must be supplemented by a recognition of the facts of infiltration of contiguous parts by actual proliferation as when the sternum and ribs become infected

[1] Read before the New York Academy of Medicine, February 15, 1900.

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by contiguity. The most essential fact for the surgeon to remember, however, is the "lymphatic system of absorbents."

The breast is the seat of several varieties of tumors, which for present consideration we shall discount adenomata, andenofibromata, cysts, and sarcomata. We shall leave them entirely out of consideration as they do not partake of the clinical history of the infectious cancer, although they are essentially a proliferation of the mammary tissues. They are not clinically classed as malignant. The adenomata are strikingly like carcinomata in feeling, and, doubtless, are frequently made the basis of "cure" by the charlatan.

Corroborative of the anatomical channels of infection we see the clinical evidence when we recall the old-time methods of operating. Let us go back a few years to the time when operations for cancer of the breast meant removal of the mammary gland only; then, the recurrences were uniformily in the axilla, neck, and in the skin. To-day, the axilla is regarded as primarily contaminated, almost as soon as any tumor can be recognized in the breast. Examination of 100 consecutive cases has demonstrated that the axillary glands are practically *always* involved, hence, good surgery demands the entire dissection of the axillary lymphatics. The surgeon realizes, however, that he has compelled absorption to travel by the superficial anastomosis; and thus we find that recurrences are now more often than formerly seen upon the skin; this carries with it an additional demonstration that the superficial lymphatics must have harbored infecting material beyond that which was apparent to the naked eye; and that there has been an outcropping of the uneradicated remnants of the original infection, which might have been prevented by more extensive removal of the skin at first.

These invisible remnants of the disease are to some extent demonstrable by a method resorted to at the time of operation by Stiles and others, consisting in the immersion of the extirpated parts in 5-per-cent. nitric acid, for a few moments, followed by immersion in alcohol, by which minute outlying infected points can be demonstrated on the cut edges if the surgeon has failed to cut wide enough of the disease. This method gives added security to the operation. Most operators, however, prefer to estimate by experience when they have given a wide enough birth to the disease. The tendency on the part of all recent operators is to make more extensive removal of the skin than was formerly thought necessary, regardless of securing apposition of skin-edges in cases where the disease has invaded the surface of the gland. The cardinal rule of operation is to fill the large skin defect by Thiersch grafts or allow healing by granulation. It is not necessary here to give in detail the methods of operating now so well known to every surgeon and commonly described in recent text-books, based largely on Halsted's admirable description, in 1894. This has been supplemented by still more extensive extirpation of the supraclavicular lymphatics in all bad cases. The profession now recognizes that in the most celebrated and prolonged operations as now performed, requiring not uncommonly two hours or more, the extreme care in controlling every bleeding point, making the operation comparatively bloodless, has largely removed the element of shock, and thus death from operation is of the rarest occurrence. Several series of 100 consecutive operations have been recorded without fatality.

Too much emphasis cannot be laid upon the operative infection of the wound by cutting infected glands and lymphatic channels, or discharging into the healthy wound infected cells squeezed from the parts being removed. This danger is recognized by the best operators and is analogous to the recognized risks of autoinfection of the patient in removal of tubercular disease, as in caseating lymphatics or in resection of tuberculous joints. It has often seemed to me that the preparation of the patient prior to operation on mammary cancer by severe and sometimes harsh scrubbing of the skin of the operative area by the nurse has a measure of risk in disseminating the disease in the cutaneous lymphatics, which may in a measure account for some recurrences in the neighborhood of the scar, which is one of the most frequent sites for the miliary deposits. For this reason I advise the least friction and handling consistent with cleansing the skin before operation. Infection of the areola tissue by escaping cells is no myth and has been often demonstrated by such traumatisms as exploratory needle-punctures into malignant growths or along the track of the needle in aspiration for cancerous effusion in the pleura.

To determine the actual value of the great amount of work done in this important field during recent years, one must, in a word, be able to state the length of time after operation that the patients have been rid of disease, and what approach has been made toward eradication. This end may be arrived at in two ways; first, by the statistical method, and, second, by what I may venture to call the "personal impression" of surgeons. Either method is open to deception, and yet with care may be made to yield the truth. Large groups of cases gathered from many sources, extending over perhaps twenty years, would include much that does not represent the latest thorough methods, while smaller groups of individual operators either may not give long enough periods to show values in the time of immunity, or else may represent picked cases in the hands of some operators who refuse cases that are extensively malignant. Prior to recent improved statistics the best consecutive reports by well-known surgeons gave practically no radical cures, and the speedy local recurrences were ranged from 60 to 85 per cent. Immediately upon the adoption of more radical methods the change in statistics recorded by the same great authorities showed a radical cure could be accomplished in from 14 to 30 per cent. (Volkmann, Billroth, König, Küstler, Bergmann and others.)

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By "*radical cure*" was meant, as expressed by Volkmann, immunity for three years after operation. The most earnest and extensive work has been conducted throughout Germany, but none more thorough than that accomplished in our own country at Johns Hopkins University. Without ignoring the able contributions of Weir, Bull, Dennis and others, one may speak of Halsted's statistics as representing the best as yet attainable. In the *Annals of Surgery*, vol. xxviii., for 1898, Halsted records the results of 133 operations done at Johns Hopkins during the nine preceding years; 41 per cent. are living without recurrences and without any signs of metastases; 76 of the 133 survived more than three years, 10 of them died more than three years after the operation, one died as long as five and a half years. Of these 10, one had local recurrence. Forty patients, or 52 per cent., lived more than three years without any regionary sign of recurrence. In 67 cases, the supraclavicular fossa was dissected clean of the lymphatics, of which 34 per cent. revealed cancer-cells in these tissues. Four cases among those whose necks were involved are living and free from metastasis after more than three years subsequent to operation, two of which were alive over four years after the primary operation. Where the supraclavicular fossa was surgically cleared of glands primarily, which was done 53 times, the tissues were found involved in 23 per cent.

In an article published in the *British Medical Journal*, June 17, 1899, by Stiles of Edinburgh, on "Cancer of the Breast," he mentions the statistics of Mr. Cheyne and says that 51 per cent. of all cases operated on by him since 1890 are alive and well at periods varying from three years and nine months to nine years. Stiles emphasizes the result of extensive microscopical examination, proving the course of lymphatic absorption in the spread of the disease to have been mainly by the lymph channels accompanying the venous blood-vessels; he regards the retromammary tissue as infected at an earlier date than the skin lymphatics. He says that in 30 per cent. the cancerous nodules have been found on the posterior surface of the pectoralis major, anl adjacent to the course of the thoracic vessels in about 30 per cent. In this number of cases the muscle itself was usually found free from the tissue, so that one may say retropectoral lymphatic invasion occurs in at least one-third of all mammary cancers.

My own personal experience in pure carcinoma of the breast, confined to my notes of the past fifteen years only and excluding all cases of mammary cysts, sarcomata, adenomata, or adenofibromata, of which there were many, shows 33 cases in private and 90 in hospital practice, a total of 123 cases. Not one death from operation has occurred in my long experience. I have not been able up to this time to search far into the present status of most of these. I shall note, therefore, that of the 33 private patients which ought to represent the average of the others, I have very recently heard of 18; one survived six years; one five and a half years; four, four years; three, three years; five, two and a half years, and four, one and a half years. Thus about 25 per cent. have reached the three-year limit and nearly as many more have approached it.

Let us disconnect our mind for the moment from the statistical review of the subject and regard the personal estimate of modern operative work of all experienced surgeons, and we will find to-day that it is the expression of men, who have passed through the stage of pessimism which was quite universal up to fifteen years ago, that they are now renewing their efforts at eradication with high optimism. It does not take more than a few cases passing the three-year limit to inspire an operator with the great value of advanced work, proving to his experienced eye that the disease has started as a local affair and was at an early stage absolutely under control, and in the latter stages subject to limitations. Such results as three years' immunity are now within the easy reach of all good operators.

Granted that the removal of the apparent disease and its complete eradication are two different matters, the *latter* of which is not always possible, it still remains proven that the surgical dissection of the extensive lymphatic involvement gives these advantages over non-operation: (1) The pressure of the cancerous masses in the axilla and neck, producing inevitable edema of the arm and extreme neuralgia, is not seen. (2) The cachexia, formerly so distressing a feature of persistent absorption, is now rarely seen even when recurrence ensues. This is equally true in operations for cancer of the stomach, bowels or rectum; the products of cancer-growth cease to poison the system and the patient usually acquires and maintains a good color.

Finally, recent experience shows that a recurrence of cancer after operation need not discourage the patient or surgeon. If it be speedily and thoroughly attended to, there is still a strong probability of its eradication, as the recurrence is not a return of the disease, but a continued growth of invisible metastatic foci left at the time of operation.

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MALIGNANCY.

BY ARTHUR L. FULLER, M.D.,
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WHILE there are many diseases which might aptly be termed malignant, inasmuch as their tendency is invariably to produce death, no means being known by which such a termination can be averted, the term "malignant disease" has been restricted to certain tumors, which are characterized clinically by a group of more or less constant and well-defined features, *viz.*, rapidity of growth, a tendency to recurrence after removal, glandular infection and general dissemination, and a condition of progressive ill-health ending in death, which seems to be due

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to some special form of pathological activity not at present well understood. While this group of features presents a striking clinical picture of malignancy, it by no means follows that they are all essential features, for the term implies some special form of pathological activity, and many of them are due to manifestations of cell energy which exist, even if not to the same extent, in the benign tumors. Such features cannot be considered anything more than the accompaniments of the condition which really constitutes malignancy.

The methods by which cell energy manifests itself are reproduction, nutrition and function, and since the cells of these tumors cannot possibly have any function beyond that of self-nutrition, it is evident that, in considering them, we have only to deal with their reproductive and nutritive activity, and it is far from difficult to show that each one of the above-mentioned clinical features bears a direct relation to one or the other of these forms of cell energy, even if it be not actually dependent on them.

Rapidity of growth, glandular infection and general dissemination are dependent solely upon the reproductive activity of the tumor cells, influenced to some extent by their anatomical arrangement, which seems to be the determining factor whether internal dissemination or glandular infection shall take place. Thus we find that in certain of these tumors, whose cell growth takes place along the lymph spaces, we have lymphatic infection; others whose cell elements come more closely into connection with the blood-vascular system are characterized by general dissemination, the pathological process being in each case the same, *viz.*, reproductive activity of certain cells or groups of cells which have been carried off by one or the other current. Pathologically, the primary and secondary growths must be considered as one tumor and their activity must be viewed from this standpoint, since, if we leave out of the question any interference with the function of important organs, such as might equally well be caused by the presence in them of a benign formation, it can only be influenced by the amount of their active elements, and can, therefore, be no greater than if they were all gathered together at the site of the original tumor instead of being scattered. The influence of the secondary growths on the patient's health, then, is dependent mainly on the fact that they constitute an addition to the active elements of the original tumor, although it may be increased by their interference with the functions of important organs. Since they are merely manifestations of the reproductive activity of the tumor cells, and since that same reproductive activity exists, even if not to the same extent, in the benign tumors, they cannot be considered essential features of malignancy, but must be looked upon rather as clinical accompaniments.

Cachexia Ending in Death.—In addition to the effects on the system of interference with the functions of important organs, exhaustion from pain, discharge, sepsis due to ulceration, etc., there is a state of progressive ill health, ending in death, peculiar to these tumors, which implies some special form of pathological activity not met with in other diseases. Since this state of health is not an accompaniment of benign formations, and since the other clinical features of these tumors are but different manifestations of a reproductive activity which is present in benign formations, it alone can be looked upon as the essential feature of malignancy, the special form of pathological activity to which it is due constituting malignancy. Therefore I shall define malignancy as "an inherent tendency to the impairment of health and destruction of life by some special pathological activity apart from any interference with the function of important organs," and it is to such tendency I shall in this paper restrict the use of the term.

To What is Malignancy Due?—In considering this question we have two points on which to base an opinion: First, the relation it bears to the structure of the tumor, and, second, the peculiar nature of the progressive ill health which is its essential feature.

With reference to its relation to the structure of the tumor, a slight consideration of the different varieties of the so-called malignant tumors shows that it varies in degree with the *type* of cell of which the tumor is composed and with the *character* of those cells. In the epitheliomata (squamous and columnar), tumors whose cells are of different types, as regards the possession of nutritive or chemical activity, but whose cells closely resemble normal, fully-developed cells of the type to which they belong, both in character and in their arrangement in the alveoli, malignancy, in the sense to which I have restricted the use of the term, does not exist; for such tumors tend to impair health and destroy life solely by better understood methods and not by any special pathological activity peculiar to them. That this is the case few will be disposed to dispute, for all clinical evidence tends to support such an assertion, the loss of health accompanying them being in direct relation to the amount of ulceration with its accompanying pain, discharge, hemorrhage and septic absorption, or to the involvement of important organs and consequent interference with the nutritive processes which are necessary to the well-being of the organism. In the carcinomata, on the other hand, a class which includes encephaloid and scirrhus with all varieties intermediate between them, the cells of which are of the type of glandular epithelium, although varying in different degrees from normal fully-developed cells of that type both in character and in their arrangement in the alveoli, the tendency to impair health and destroy life is a prominent feature, its prominence being greater than in tumors whose cells belong to a type which has less nutritive or chemical activity, and being also in direct proportion to the difference of the tumor cells from normal fully-developed cells of their type. It is most marked in encephaloid, the

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cells of which sometimes so closely resemble elementary embryonic cells, as to be indistinguishable from those of small round-celled sarcoma, and becomes less marked through the intermediate varieties to scirrhus, the cells of which more nearly resemble normal fully-developed epithelium in their character. In the sarcomata, the cells of which are of the connective tissue type, a type which possesses less nutritive or chemical activity than glandular epithelium, this tendency also exists, although to a less extent in all except the round-celled sarcomata. It varies in degree with the difference between the tumor cells and normal fully-developed connective tissue, being greatest in the small round-celled sarcomata, the cells of which are purely embryonic in character, and diminishing as the cells approach in character more nearly to fully-developed connective tissue. The malignancy of these tumors, therefore, may be said to exist in direct proportion to the nutritive or chemical activity of the *type* of cell of which they are composed, and in each type in proportion to the variation in *character* of the tumor cells from normal fully-developed cells of their type, being most marked, as regards class, in tumors whose cells belong to the type manifesting the greatest nutritive or chemical activity, and in each class most marked in those tumors whose cells differ most from fully-developed cells of their type. It is hardly conceivable that such a close relation should exist, unless it be a case of cause and effect, malignancy being the expression of some abnormal cell-metabolism, a supposition which also has in its favor the peculiar nature of the ill health produced by malignant tumors.

The cachexia of malignant tumors bears a more than superficial resemblance to certain other conditions, the cause of which is well known, although perhaps not so well understood. These conditions are myxedema and Addison's disease, each of which depends on the absence or destruction of certain glands, whose functions, although imperfectly understood, are evidently intimately connected with the health of the organism. Whether those glands act by extracting certain toxic substances from the blood, returning them in a different and innocuous form, or by producing some secretion which exerts a restraining influence on cell-metabolism, preventing the formation of such substances or neutralizing their effects, the fact remains that disease or destruction of those glands means death by some condition resembling a toxemia, caused by the retention in the system of some of the products of cell-metabolism, which their function is to remove or neutralize. In the cachexia of malignant disease there exists a precisely similar condition, masses of more or less undeveloped cells, of different types, pouring into the system the excrementitious products of their metabolism, products which may be normal as regards the embryonic cells themselves, and yet injurious to the general system in the absence of an organ bearing a relation to them similar to that borne by the thyroid and adrenals to the products of the metabolism of fully-developed tissues. In the thymus such an organ exists.

Since the thymus exists only during fetal and infantile life, its functions must be connected with certain processes of early life which are absent later, their absence obviating the necessity of its continued existence. Since early life is the period in which the reproductive activity of the cells is most marked, it is probable that there are at that period many cells existing which have not yet attained the full development of their type and are, therefore, still embryonic in character, and that it is with the products of the metabolism of these cells that the functions of the thymus are connected. Such is the only theory which rationally accounts for the short existence of the thymus, for if its functions were connected in any way with the metabolic processes of fully-developed tissue, they would also be a necessity of later life, and its existence would, therefore, be prolonged. The activity of the thymus is, therefore, probably exerted in one of the following directions: The extraction from the blood of some products of embryonic cell-metabolism, which are injurious to the system, and their return thereto in a different and innocuous form; the secretion of some substance which neutralizes the injurious properties of such products, or regulates the metabolism of embryonic cells preventing their formation; or possibly, although not probably, the secretion of some substance which stimulates the upward progress of embryonic cells toward the full development of the type to which they belong, its relation to embryonic cells being analogous to the relation of the thyroid or adrenals to fully-developed tissue. The fact that the structure of the thymus indicates blood-formation as its chief function renders this view none the less tenable, for, even if such be its chief function, it may also possess the subsidiary function of internal secretion, such as we are beginning to recognize in certain other organs, notably the testicle and ovary.

This likeness between the cachexia of malignant disease and the cachexiæ of myxedema and Addison's disease, combined with its relation to the cell structure of the tumor, renders it more than possible that the cachexia is due to the retention in the system of products of embryonic cell-metabolism, and that the formation and excretion into the system of such products is the special form of pathological activity, which constitutes malignancy.

It is, therefore, not impossible that the administration of some preparation of the thymus, preferably an extract by intravenous injection, may be of use in the treatment of those malignant tumors whose cells are embryonic in character, *viz.*, the carcinomata and sarcomata. Since their malignancy seems to be intimately connected with, if not absolutely dependent on, the embryonic character of their cells, its exhibition might be of service in hindering the progress or lessening the degree of the ill health attendant on them, and so prolong life in such cases as are beyond operative

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interference, and possibly, by improving the general health, bring some cases within reach of the knife which must otherwise be left unrelieved.

To sum up: Malignancy is a term which implies some special form of pathological activity, not present in other conditions.

Since the cachexia alone seems to depend on forms of cell energy which are absent in other conditions, it alone must be considered the essential feature of malignancy.

The relation of cachexia to the embryonic character of the tumor cells is such as to suggest that it is due to the retention of products of embryonic cell-metabolism in the system, constituting a form of toxemia; therefore, the special form of activity, which constitutes malignancy, is probably the formation and excretion into the system of such products.

This suggestion is borne out by the fact that the presence of embryonic cells pouring their metabolic products into the system, in the absence of the thymus gland, constitutes a pathological condition similar to those present in myxedema and Addison's disease, diseases in which the loss of health closely resembles the cachexia of malignant disease.

Therefore, the administration of thymus in malignant disease might prove of service in sustaining the patient's strength, just as the administration of thyroid has done in myxedema and suprarenals in some cases of Addison's disease.

CAUSES, DIAGNOSIS, AND TREATMENT OF CYSTITIS.

BY RAMON GUITERAS, M.D.,
OF NEW YORK.

IN preparing this paper my object has been to present the subject, not as I would if treating of it before a body of specialists, but rather in the light in which the general practitioner views it. He looks upon cystitis in a general way and does not interest himself in the finer points which appeal to the specialist, being merely desirous of knowing whether he is dealing with the disease in question, and, if so, its cause and the best means of permanently relieving the patient of his suffering.

The pathology of the disease in its various forms is most interesting, but I have purposely avoided bringing it into the paper, except so far as is necessary in considering the pathological elements found in the urine or discharges, which point to the cause and localization of the trouble, and furnish a valuable aid in differential diagnosis.

We are taught that the three cardinal symptoms of cystitis are, frequency of urination, pain, and pus in the urine; but such symptoms may be associated singly or combined with other diseased conditions, and although we feel reasonably sure that we are dealing with cystitis, when these three symptoms are present, still there are instances in which this rule of three does not always apply. This is manifested in certain cases of cystitis associated with paralysis or with cord degeneration, in which both pain and frequency of urination are absent.

On the other hand an irritable bladder gives rise to the same subjective symptoms as cystitis, but as pus is absent from the urine we do not mistake the condition for cystitis, but look for some cause of the trouble other than an inflammation of the mucous membrane of the bladder. We find it due, perhaps, to a congestion of the vesical neck, or to a disease of the neighboring tissues, as the uterus or rectum, or to some foreign body in the bladder, to some pathological condition of the bladder-wall, to irritating constituents of the urine, or, finally, to some disease of the nervous system. Nor must it be thought that frequency of urination, pain, and pyuria are the only symptoms of cystitis, since hematuria frequently occurs, as well as retention and incontinence.

Almost all diseases of the genito-urinary tract, from the posterior urethra to the kidney, cause frequency of urination, and often pain, referred to the small of the back, the loins, the perineum, the thighs or the testes, so that even although in addition to these two symptoms there is pus in the urine, it is essential before making a diagnosis of cystitis to ascertain that the pus comes from the bladder and not from the urethra or the kidney. The history of the disease as given by the patient will usually be of great service in determining this. If, however, there is a doubt, it is well to examine the urethra, anterior and posterior, for inflammation and purulent discharge, and then turn our attention to the urine in the bladder to see whether the pus comes from an inflammation of the bladder-wall or from the kidneys or ureters.

Blood is frequently found in the urine but generally not in large amounts, excepting in tumor cases. In cases of cystitis it is usually due to rupture of the vesical capillaries. When there is an acute inflammation about the vesical neck some blood may be expressed after urination, although it may be mixed with the urine. In cases of stone the mechanical irritation is sufficient to cause blood in the urine, while in tuberculosis it may be due to ulceration of a blood-vessel in the bladder-wall. One frequently sees, on examining a case of chronic cystitis by the cystoscope, a turgid vessel in the bladder, a true varicosity, which looks as if it would break at the slightest touch, with increasing bladder tension, or with a sudden expulsive effort.

For the sake of clearness I shall discuss cystitis in the acute and chronic forms, merely touching upon the many subvarieties of each during the consideration of causation and treatment.

Acute Cystitis.

Cause.—This is always bacterial and is generally due to extension of an acute gonorrhea from the urethra during the third or fourth week,

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or to posterior urethral instrumentation during an attack of posterior urethritis. Many of the cases, spoken of as inflammation of the bladder complicating urethritis, are not cases of acute cystitis but of acute posterior urethritis. Injury to the blood and nerve supply of the bladder during confinement, or pelvic operations, whereby the resistance of the tissues to the invasion of bacteria is diminished is almost invariably followed by acute cystitis. There are certain conditions which predispose to acute cystitis in an individual suffering from gonorrhea. These are congestion or distention of the bladder from whatever cause, undue exercise, as bicycle or horseback-riding, and exposure to wet or cold.

Symptoms.—In the beginning of an attack there is often depression, nausea and loss of appetite, although there is no febrile movement. Urination is frequent and precipitate, occurring sometimes as often as a hundred times in twenty-four hours. Pain in the perineum radiating through the urethra and along the thighs, and tenesmus in the neck of the bladder are almost constant, a brief interval of relief following complete emptying of the bladder.

The urine is acid and of normal specific gravity. It is turbid from the amount of pus present, and is pale or highly colored, according to the amount of fluid ingested. If the urine is concentrated there may be blood enough in it to give it the color of thin prune-juice. The microscope reveals bladder epithelium, pus, blood, bacteria and perhaps crystals. Recto-abdominal palpation gives pain in the trigone, and the bladder is extremely sensitive to the introduction of fluid or instruments.

Diagnosis.—Acute cystitis may be confounded with posterior urethritis, prostatitis, seminal vesiculitis and vesical irritability.

Posterior urethritis is the most common antecedent of acute cystitis. The line between this condition and acute cystitis is not a finely-drawn one, as the neck of the bladder is simply a continuation of the posterior urethra, and it is easy for the inflammation to extend along the posterior urethral lining into the bladder. In fact, that part of the urethra above the veru montanum closely resembles bladder in its construction, while that below is more like the remainder of the urethra. As has already been said, many cases of acute gonorrheal cystitis are not cystitis at all, but simply attacks of acute posterior urethritis. It must be remembered that in this condition the pus flows backward into the bladder, so that a great amount of it is contained in the urine, just as is in acute urethritis. Various methods of diagnosis between the two have been proposed by different authors, but in my opinion the most important are the three-glass test and the use of the microscope. If the urine is passed into three glasses, the third glass will contain as much pus as the other two if the case is one of cystitis, while in a posterior urethritis the first glass will contain a greater amount of pus than the other two, with urethral shreds in addition. The microscope will reveal the location of the disease from the variety of epithelium in the urine.

Acute prostatitis is also confounded with acute cystitis, but here, as a rule, the febrile element is marked. Guyon says that in an acute cystitis there is never fever, and if this occurs it is due to some other complication. In acute prostatitis there is often urinary hesitancy, or even retention, the reverse of which, precipitate urination and even false incontinence, occurs in cystitis. There is often pain in the rectum during defecation, or when sitting down, in prostatitis, which does not occur in cystitis. Rectal examination in prostatitis would reveal general enlargement of the prostate gland, or localized inflammatory thickening of one lobe, or a part of one with tenderness on pressure.

Acute seminal vesculitis may be mistaken for acute cystitis, for in this condition there is often frequency of urination, a sense of fulness over the pubes, heaviness in the perineum, a feeling of pain and a burning in the neck of the bladder, with tenesmus. There is, however, very little pus in the urine. The first specimen contains some pus and shreds from the posterior urethritis usually associated with it, whereas the second specimen is clear. The microscope shows no evidence of cystitis. Rectal examination shows the vesicles to be enlarged and tender, and after the inflammation has begun to subside quantities of detritus can be expressed into the urine by massage.

Vesical irritability is usually due to a congestion about the neck of the bladder or posterior urethra, depending upon hyperacidity of the urine, or the presence in it of irritable oxalate of lime crystals, or an irritable condition of the prostate or vesicles. Exposure to cold also causes it at times. In these cases there is no pus found in the urine, as there is in cystitis. It is probable, however, that most cases of so-called irritable bladder are found in patients who, having a chronic inflammation of the posterior urethra, or of the adnexa, bring on a slight exacerbation through excessive coitus, overeating or drinking, or exposure to wet or cold.

If, in any case, differential diagnosis cannot be made by other means, the cystoscope may be resorted to, although as a rule this instrument should never be used in cases of acute cystitis, as it wounds the mucous membrane of the bladder and tends to aggravate the inflammation. In cases in which it has been employed for purposes of investigation, the appearance of the sides of the bladder-wall in acute cystitis, as seen through the instrument, is that of an edematous and very much congested mucous membrane, the vessels of which are dilated. The epithelium is seen to have been cast off in places, and long, thready streamers of it float from the bladder-wall. Hemorrhagic spots or streaks are sometimes noticed.

Chronic Cystitis.

The causes of chronic cystitis are active and

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predisposing. The active cause is the entrance of pathogenic germs into the bladder when the predisposing causes are present. Among the predisposing causes first of all we have congestion. This may be due to the condition of the urine, such as the presence of superabundant crystals of uric acid, or oxalate of lime; to certain drugs, such as cantharides; to overindulgence in alcoholics or sexual excitement, when a posterior urethritis is present; to the presence of some irritating medium in the cavity or wall of the bladder, such as calculus, tumor or tubercle. It may also be due to obstruction, as stricture and enlarged prostate. These cause congestion by the effort of the bladder to overcome the obstruction, also by distention of the bladder with residual urine. In stricture there is usually a little dilatation behind it, which allows a small amount of residual urine to remain after micturition. This may decompose and keep up urethral irritation and favor the local growth of microbes in a place where they may be easily pushed into the bladder by instrumentation in making a diagnosis, or withdrawing urine in retention.

In prostatic hypertrophy there is an obstruction to the return of blood from the vesical veins through the compressed prostatic veins and thus there is a passive congestion, most marked when the patient is quiet at night, for in the daytime the muscular effort of moving about favors the circulation.

Symptoms.—In chronic cystitis the patient has usually been ailing for some time. The symptoms vary much in their development, duration and intensity. Frequency and pain are not, as a rule, so marked as in acute cystitis, excepting during exacerbation. The patient urinates, perhaps, ten to twelve times during the twenty-four hours. Pus in the urine is the only symptom which is never absent, but as this may occur in many other conditions we must be on our guard against a hasty diagnosis.

The urine is generally light in color and alkaline, of a lowered specific gravity, containing a slight amount of albumin, perhaps some blood, with pus in abundance. On examining it in three glasses as it is evacuated from the bladder, the first and third usually contain the greatest amount of pus. When the urine is allowed to settle, it forms a more or less dense deposit on the bottom of the glass, above which there is a cloud of muco-pus. When it is ammoniacal, the odor is characteristic and there is a glairy mucilaginous substance present which adheres to the vessel in which it is contained. In this, as in the acute condition, the microscope is a most valuable aid to diagnosis. Bladder epithelium of the first and second layers is found in abundance, together with crystals and perhaps blood, especially in the ulcerative forms, while the discovery of the particular germ, or germs, actively concerned in the inflammatory process is of great assistance, not only in diagnosis, but in prognosis and treatment.

Differential Diagnosis.—In making a diagnosis of chronic cystitis certain other conditions outside of the bladder have to be considered, as chronic posterior urethritis, chronic prostatitis, kidney lesions, bladder irritability, and various affections.

In a chronic posterior urethritis there is increased frequency of urination. There is often some pain and tenesmus after overindulgence in coitus, drink, or exposure to cold. Pus, however, is found only in the shreds washed out in the first urination, in the three-glass test, and the microscope fails to reveal the products of bladder inflammation.

In chronic prostatitis a posterior urethritis usually exists, and perhaps prostatorrhea. The symptoms are about the same as in chronic posterior urethral inflammation, but here also under the microscope the urine would fail to show the products of cystitis.

The diagnosis of cystitis from surgical kidney is usually not difficult, although disease of these two organs may often be associated, one dependent upon the other, as, for instance, a tubercular cystitis may be secondary tuberculosis of the kidney, or a pyelitis, or a pyelonephritis may follow a cystitis due to obstruction. In kidney lesions we usually have pain in the loins, and on palpation, perhaps tenderness, or a marked enlargement of the kidney. Disease of either organ may give rise to frequency of urination, but in bladder cases the frequency is usually more marked, and the pain associated with it is more often behind the pubes, or in the vesical neck. The pain in the kidney cases may extend down to the bladder, but it is usually most persistent in the lumbar region. Clinically the pyuria varies somewhat in these cases. In cystitis the pus is usually found in alkaline urine, while in pyelitis the urine is acid. In cystitis the pus is a constant constituent of the urine: in kidney disease it may be intermittent. In cystitis it is usually in larger quantities than in pyelitis.

The microscope shows the pus-cells coming from the kidney to be more degenerated. It also shows more epithelium present in the urine of cystitis. In the pus of pyelitis it shows, sometimes, large cylindrical plugs coming from the papillary ducts. In addition to this in kidney cases we may see hyaline, granular, blood and epithelial casts with pus and even particles of renal tissue. Although it has been contended by many that the variety of epithelium revealed by the microscope in urinary examinations throws but little light on the location of the disease, I am firmly convinced that in the hands of an expert pathologist it is a most important aid.

Bladder irritability is distinguished from chronic cystitis in the same way as from acute cystitis, by the lack of pus in the urine. This applies as well to any condition resembling cystitis dependent upon nervous lesions, or functional affections.

Method of Examining a Patient.—In examining a patient with urinary symptoms we must

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never jump hastily to the conclusion, from the history of frequency and pain, that cystitis is present, but should go into each case systematically. It is well to do this in two visits between which the patient's urine can be examined, and a urinary antiseptic given. In the office and the clinic the order is as follows: First visit: Palpate the kidney. Percuss and palpate the suprapubic region. Examine the external genitals, and then by rectum the internal genitals, the prostate and the seminal vesicles. At the same time the bladder can be palpated, although little can be made out as a rule in this way, except in case of stone or tumor. The urine is then taken for analysis, and the patient put on salol, 5 grains every four hours, or urotropin 7-8 grains, three times a day. Second visit: On the next visit, with a knowledge of the condition of the kidneys, bladder and external and internal genitals, as well as can be determined by palpation of the different organs and the analysis of the urine, we are better able to examine the urethra and bladder understandingly. The urethra is examined by *bougie à boule* for stricture, and the bladder with the stone-searcher and cystoscope, if advisable. The urethroscope is rarely used, except where a chronic discharge, which we are desirous of locating, is present.

Individual Consideration of the Different Cases.

(*1*) *Chronic Cystitis from Urethral Extension.*—This is either the remains of an acute attack of cystitis following an acute attack of gonorrhea, or else it is due to slow extension from a chronic posterior urethritis. It more frequently occurs, therefore, in young men with a previous history of urethritis, associated with pain in the neck of the bladder and frequency of urination. In this condition the frequency of urination is generally but slightly increased, excepting after excesses of eating, drinking or coitus, or exposure to cold or wet, when there is an exacerbation lasting for a number of days with a gradual return of the former condition.

(*2*) *Chronic Cystitis Due to Stricture.*—In this condition the patient is generally a man thirty to forty-five years of age, with a history of numerous attacks of urethritis running a chronic course. He probably has a gleet, a twisted stream, complains of frequency of urination, especially during the day, passes a small stream with perhaps a dribbling afterward, and he may have had one or more attacks of retention. Here a urethral examination shows a stricture, usually in the deep urethra.

(*3*) *Chronic Cystitis Due to Prostatic Hypertrophy.*—In this case the patient is from fifty to seventy-five years of age with perhaps no gonorrheal history or, if he had such trouble, it occurred many years ago. He has noticed for some time a desire to pass urine with increased frequency, especially at night. Sometimes his stream comes with a certain amount of hesitancy; he may even have had attacks of retention. He suffers considerable pain and burning in the neck of the bladder, especially after finishing the act. Examination shows quite an amount of residual urine in the bladder. The urethra is found to be elongated and rectal touch shows a prostate of increased size. If a cystoscope is used, the uneven edge of an enlarged prostate is noticed at the vesical neck.

(*4*) *Chronic Cystitis Due to Tumor.*—Here the patient is also fifty or over. He gives a history of hemorrhage of the bladder recurring with increased frequency, not dependent upon anything in particular and sometimes taking place during sleep, the blood being mixed with the urine, in clots, or coming out free after urination. An examination of the urine would often show much blood and tissue elements, fragments of tumors. The cystoscope will show a tumor, pedunculated or sessile, growing from the wall of the bladder.

(*5*) *Chronic Cystitis Due to Stone.*—In this case the patient may be of any sex, or any age. There will be a history of frequency of urination lasting for some months, or years, and pain in the region of the bladder, which in the male perhaps shoots into the testes. The frequency and pain are more active during the day, when the patient is up and about, especially when riding, or being jolted or jarred. The stream of urine will often stop suddenly during micturition, causing pain and tenesmus which will be relieved by change of position or by waiting awhile, when the urine will again begin to flow. Brick-dust deposit may be noticed at times in the chamber, or at intervals there may be colicky attacks originating in the loins and running down into the pelvis. In these cases the stone will be detected by the searcher, or seen on cystoscopic examination.

(*6*) *Tubercular Cystitis.*—This may occur in either sex, usually between the ages of eighteen and thirty years. The patient may never have had any venereal disease. The first symptom noticed is frequency of urination followed later by pain in the bladder and tenesmus. These two symptoms increase in severity both night and day, so that often the patient is obliged to urinate every few minutes during the twenty-four hours without obtaining much relief. These cases very often have a history of incontinence of urine during childhood, especially at night. They may have been very delicate, suffered from frequent coughs, or had abscesses in the neck, or some affection of the joints. The lungs may be affected, or there may be a family history of phthisis. In the male a rectal examination may reveal tubercular nodes of the epididymis, prostate or vesicles. The urine, in addition to the other signs of cystitis will show tubercle bacilli, or, if cystoscopy is performed, small tubercular deposits or ulcers may be seen in the bladder-wall. In cases of cystitis in which none of the other causes can be established it is probable that it is of tubercular origin.

Treatment of Acute Cystitis.—In this condi-

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tion rest in the recumbent position is most essential. Hot sitz baths are of the greatest service, as by determining the blood to the periphery they diminish the congestion in the bladder, thus causing the inflammation to subside. They should be given twice a day as hot as the patient can conveniently stand. Hot rectal douches of saline solution are also of benefit, and can be given by means of the rectal tube, preferably the one known as the rectogenital variety made by Reynders & Co., of this city. The hotter these irrigations are given the more beneficial they seem to be, and the degree of heat which a patient can stand is surprising. The use of hot water in the rectum seems to alleviate the inflammation when the degree of heat is such that the hand can hardly be placed in the vessel. The temperature usually used is from 110 to 120° F. These hot rectal douches can be taken by the patient while in the hot sitz bath, or they can be taken independently of it.

The patient should take internally diluents of an alkaline nature, such as the potash salts; mild urinary antiseptics, such as the salicylates or benzoates, and antispasmodics, as belladonna, hyoscyamus or codeine. Of the urinary antiseptics, probably the benzoate of soda, 45 grains, salicylate of soda, 60 grains, or salol, 30 grains, a day, in divided doses, are the most efficacious. Of the antispasmodics, tincture of belladonna, 8 to 10 minims, tincture of hyoscyamus, 15 to 30 minims, codeine, ¼ to 1 grain, or morphine, ⅛ grain to ¼ grain, each to be given three times a day. These can be given combined with the diluents and urinary antiseptics or singly, as preferred. Very often the spasm and pain at the neck of the bladder are so intense that it is better to give the antispasmodics in the form of a suppository, especially at night, in order to allow the patient to obtain some rest. In this case the suppository should be made of ¼ grain each of morphine and the extract of belladonna in cacao butter.

If the urethra is not too sensitive, bladder irrigations through the meatus by hydrostatic pressure, according to the Janet method should be used. Of these, in the acute condition, permanganate of potash is probably the best, beginning with a strength of about 1 to 4000 and increasing it slowly until as high as 1 to 1000 is used. It will usually take a week of daily irrigations to reach this latter strength, increasing by easy stages. If the permanganate of potash is not efficacious, a solution of nitrate of silver may be used, beginning at 1 to 16,000 and increasing gradually to as high as 1 to 3000 or 1 to 4000. Boric acid or boroglycerine, a tablespoonful to the pint, is also of value.

Sometimes when the patient's bladder is very intolerant and about one ounce or more of fluid causes the patient sufficient distress to force him to urinate, it is better to give instillations of nitrate of silver by means of the deep urethral syringe until sufficient tolerance is established to allow the irrigation to be given, as in such a case the posterior urethra is also generally acutely inflamed. In giving these instillations it is well to begin with the strength of one grain to the ounce and increase up to ten grains if necessary. From five to ten minims of such a solution should be instilled at each sitting, and generally every other day is sufficiently frequent for such a treatment. It is surprising how much relief so strong a solution will give when applied to the very acutely inflamed membrane of the vesical neck.

Treatment of Chronic Cystitis.—In cases of chronic cystitis two conditions confront us, the cystitis and the cause. In all acute exacerbations of chronic cystitis the disease should be treated on the same lines as the acute variety already referred to. Most cases of chronic cystitis will improve if put to bed and given hot sitz baths or hot rectal irrigations, together with urinary antiseptics and large quantities of water internally.

Of urinary antiseptics those already mentioned are useful, also the oil of wintergreen and the oil of eucalyptus; but when the urine is alkaline, as is usual in obstructive cystitis, nothing equals urotropin in 7-8 grain doses every three to four hours. These measures, however, are merely palliative and no permanent cure can be effected except by local treatment. In every case great benefit will follow a systematized course of bladder irrigation, either by hydrostatic pressure or by the catheter and hand-syringe. The choice of means will naturally be decided by the consideration of convenience, and in this regard the latter method frequently offers more points in its favor. But, just as in acute cystitis, it is not advisable to pass any instrument into the bladder, so in cases of chronic cystitis in which the symptoms are very acute, as they sometimes are, especially in tuberculosis and stone, it would be unwise to attempt this procedure. In washing out the bladder by either means, simple boracic acid solution may first be used, or even saline solution or sterilized water, followed at intervals by solutions of permanganate of potash or nitrate of silver in the strength already mentioned.

Before proceeding to speak of the treatment of the different varieties of chronic cystitis, it might be well to say a word on the subject of prophylaxis. As a matter of prophylaxis, great care should be taken in keeping instruments clean. This applies as well to those used in examination as to those used in treatment. The most frequent instrumentation is used in cases of obstructive cystitis in which we are endeavoring to dilate a stricture, or relieve a retention, or to break a patient into catheter life. All hollow instruments should be flushed after use. As to sterilization, briefly, all purely metal and all soft rubber instruments may be sterilized by five minutes' boiling. Gum elastic and woven catheters, as well as all other instruments, may be sterilized by subjecting them to the formaldehyde vapor generated by means of the formalin pastiles and lamp in a Schering-Glatz sterilizer.

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Treatment of Cystitis Due to Extension.—This consists chiefly of irrigation from the meatus by hydrostatic pressure with a solution of nitrate of silver, 1 to 2000 to 1 to 4000. The bladder having been filled with the solution, the patient empties it in the natural way, and the process is repeated once or twice at each treatment, if deemed advisable. It is usual to give one of the urinary antiseptics, and, if there be much tenesmus, hyoscyamus or belladonna.

Treatment of Cystitis Due to Stricture.—This should be directed to the palliation of the symptoms pending the removal of the cause. The restoration of the urethra to its normal caliber throughout will do away with the congestion produced by the increased effort on the part of the bladder to expel its contents, and, with the removal of this predisposing cause, we make appreciable gains in our attack on the disease. Whenever the stricture is capable of dilatation this should be brought about by means of sounds, or dilators. Of the latter the Oberländer is the most practical, the least cumbersome and the least complicated. As it has the same shape as a sound, it can be introduced readily into the urethra and the stricture can be dilated one or more degrees at each sitting, and by the aid of this one instrument we may accomplish the same result as by a set of sounds. The bladder should be washed out after each dilatation by the hydrostatic method with one of the antiseptic solutions already mentioned. Internal antiseptics should be used continuously throughout a course of dilatation, and the instrumental treatment should not be given oftener than twice a week.

If the stricture will not dilate and is so small as to give rise to considerable back pressure, it should be cut lest the ureters and the kidneys become involved. If it is situated in the anterior portion and will admit an Otis urethrotome, the cutting should be done by means of this instrument. As a rule, however, strictures that give rise to cystitis are small ones, situated in the deep urethra where this instrument ought not to be used. In these cases, if a guide can be passed, the Maisonneuve urethrotome should be employed, or an external urethrotomy performed, upon a grooved guide. When no guide can be passed into the bladder through the urethra the perineal cannula guide will be found of great assistance in the external operation.

Personally I favor the external urethrotomy, with bladder drainage for a few days if but one method is to be employed, as in operating with the Maisonneuve we cut in a very important part of the canal where we may have a serious extravasation, or a septic process started by the absorption of foul urine or urethral discharge. The ideal operation I consider to be internal urethrotomy by the Maisonneuve accompanied by an external urethrotomy, as the foul urine is thus switched off from the deep urethra by means of the tube, and the frequent irrigation which we give the urethra tends to keep it as clean and aseptic as possible. Previous to such an operation the patient should be kept in bed, should drink large quantities of water, and should receive internal antiseptics and hot sitz baths. The same treatment with the exception of the sitz baths should be continued after the operation, and the drainage of the bladder through the tube in the perineal wound should be kept up for from one to three weeks. Sounds should be passed every other day until the wound is closed and bladder irrigation given until the cystitis is cured.

Treatment of Cystitis Due to Prostatic Hypertrophy.—Many methods have been devised for overcoming obstruction at the bladder outlet, but at present they have been sifted down to two, or perhaps three, operative procedures, *i.e.*, enucleation, the Bottini operation, and the formation of a permanent fistula. In patients with good kidneys and heart, in whom the prostate is large and has a fibroid feel, the best remedy is enucleation. This can be done through the bladder, the perineum, or both. In patients in whom the enlargement is chiefly confined to the third lobe, and in whom the rest of the gland as felt through the rectum appears but little enlarged, although very much indurated, enucleation cannot be performed and the Bottini operation commends itself. By this procedure furrows are burned through the impediment, allowing the emptying of the bladder, and the blood-supply is cut off to such an extent by the searing process that atrophy of the gland takes place. When enucleation and the Bottini operation have proved to be of no avail a permanent suprapubic fistula may be established for the purpose of drainage.

Treatment of Cystitis Due to Stone.—The stone should be crushed by the operation of lithoplaxy and the particles removed through the evacuator, although in this country suprapubic lithotomy seems to be gaining favor. This is due, in a measure, to the fact that vesical calculus is so rare here that surgeons do not operate often enough to become expert in lithoplaxy as in countries in which this affection is common. When the cause of the congestion has been removed the cystitis may be cured by the methods already described.

Treatment of Cystitis Due to Tumor.—This condition is somewhat rare. The cystitis is secondary to the congestion due to the amount of blood sent to the bladder-wall to nourish the neoplasm. In almost every case the proper procedure is a suprapubic cystotomy, the growth to be removed if pedunculated by the scissors, if sessile, by the curette and its base cauterized.

Malignant growths are sometimes excised, but this operation presents a large death-rate, and even when it is successful recurrence usually takes place, therefore, in case the urethra is not of sufficient caliber for drainage, palliative treatment by means of a permanent suprapubic fistula is the best that can be done for this condition.

Treatment of Cystitis Due to Tuberculosis.—In the treatment of tubercular cystitis, the practitioner encounters a condition that taxes all the resources at his command and he errs, as a rule,

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on the side of too much, rather than too little, treatment. In other words, it often happens that the more you treat the patient locally for his cystitis, the worse the condition becomes. It is, therefore, necessary to proceed cautiously in the treatment of this form of bladder inflammation, and, above all, is it important to improve the general condition of the patient as much as possible. If we were to treat patients suffering from tubercular cystitis along the same lines as pulmonary cases, namely, by sending them away to lead an open-air life under conditions that would improve their nutrition to the utmost, the condition would be much more rapidly improved or cured than by anything that could be done by the ablest specialist of the period.

Numerous remedies have been recommended by different authorities for the treatment of this form of cystitis, and naturally every practitioner who encounters this rebellious trouble grasps at anything that offers the probability of a cure. Guyon at one time advocated the use of intravesical injections of bichloride of mercury, 1 to 10,000, and since then many have been following his advice, but such a solution will rarely cure this disease, while it usually produces an irritation that is almost unbearable.

Nitrate of silver and permanganate of potassium have the same effect. Boric acid and boroglycerine irritate less, but do not seem to possess the power to ameliorate the disease. Recently iodoform injections have been advocated, and the procedure would seem to be founded on a logical basis. Three of four ounces of a five-per-cent. solution of iodoform in liquid vaseline are injected into the bladder every two or three days, the patient being instructed to watch the stream when he urinates and stop the flow just as soon as the oil appears. This forms a permanent idoform dressing of the bladder-wall, and in the hands of some of the French surgeons is said to have met with gratifying results.

Personally, I have had better results with borolyptol in this class of cases than with any other remedy which I have employed. This seems to have a powerful germicidal effect, while the fact that it does not irritate the bladder renders it pleasant to the patient. It is used in the strength of from 1 in 8 to 1 in 16 in irrigations by the hydrostatic method. After a few irrigations at the office the patient will be able to use it every night at home. I have one patient now under observation who suffered for a number of years from a most aggravating frequency of urination accompanied by pain, dependent upon a tubercular cystitis. Under this treatment the urine has cleared up, the tubercle bacilli have disappeared and the patient can hold his urine from seven to nine hours at night and from four to six hours during the day.

Internally, in connection with any local treatment, an antispasmodic and an internal antiseptic should be used as a palliative measure; it is wonderful how much relief may be given to the patient by this means, even although pus remain in the urine and the tubercle bacilli still be found. One patient has been coming to me for three months who was entirely relieved of his disagreeable subjective symptoms by a mixture containing 10 minims of the tincture of belladonna, 15 grains of benzoate of soda, and oil of gaultheria up to one drachm, t.i.d., although not until he was put on the borolyptol irrigation did the pus and tubercle bacilli in the urine diminish to any marked degree. The effect of the palliative internal medication is worthy of notice, in view of the fact that he had suffered for fourteen years, and had been under the care of many different physicians without relief, having most probably been overtreated by too much instrumentation and too frequent or too irritating irrigations.

63 West Fifty-fourth Street.

CLINICAL LECTURE.

HYPNOTISM.

BY F. X. DERCUM, M.D.,
OF PHILADELPHIA;
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A GREAT deal of unnecessary mystery attaches to the subject of hypnotism. To the minds of the laity the name suggests something weird and uncanny and this statement may even be made of a large number of physicians. As we make a demonstration of its use and explain the principles upon which it is based, I think you will agree with me that there is nothing strange about it. The fact of hypnotism cannot be disputed. It is well known that animals, such as birds, rabbits, etc., are easily hypnotized by forcibly attracting their attention; and by drawing a line on the floor or ground in front of them they will remain in a fixed position. The fact is also true as regards human beings, the subjects capable of being hypnotized belonging to the great class of neurotics, many of the symptoms of which these people complain resembling those of hysteria.

The hypnotic state is usually divided into three stages. First, there is the stage of catalepsy, or sleep, in which there is muscular relaxation. Second, the stage of lethargy, in which the sleep is deeper, and instead of muscular rigidity, the head or limbs of the patient remaining in whatever position they may be placed. Third, the stage of somnambulism, or stage of automatic movements.

Because I hypnotize a subject before you I do not wish it to be understood that I am an exponent of the practice or that I wish you to follow it in your future work. On the other hand, you should use it only under very exceptional circumstances, and then with strict regard to the rules which will be subsequently laid down. The importance of hypnotism has been greatly exaggerated, both as to its medical aspects and by the public. The lay idea regarding it is obtained

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largely from professional hypnotists and traveling pretenders with their more or less misleading exhibitions.

The field for the legitimate practice of hypnotism is an exceedingly limited one. I wish also to say that there may be an element of danger for the one who practises it. There is not only a suggestion to the patient but there is also an autosuggestion to the operator. Excessive study of hypnotism may lead to untoward results in some persons. We often meet with laymen or students who are studying hypnotism, or investigating its powers. These persons should remember that there is a certain amount of danger as regards their own mental stability—a danger which arises from their own increased susceptibility to involuntary autosuggestion.

As physicians, hypnotism interests us from two points of view: First, the explanation of its principles, and, second, the extent of its practical application. There are many theories explaining the induction of the hypnotic state, but the great bulk of them are metaphysical in character and have no practical value. The laity may be satisfied by such explanations, but they will not do for the medical man. He must have a rational, a physical, or a physiologic explanation of the subject. The explanation which I shall give is based upon the structure and workings of the nervous system itself and thus has an anatomic and physiologic basis.

To explain hypnotism we must first explain the physiology of natural sleep. The nerve-cell, with its processes or dendrites, makes up the unit of nervous tissue. These units, or neurones, bear various relations to each other at different times. There are some men, and I have for a long time been one of them, who think that these elements retain some of the mobility which they possess during embryonic life. Under certain conditions they change their relation to each other. Whether this change is a mechanical one or not makes but little difference, however, and does not influence the theory. They must change their physiologic relations in some way. I say this because there are some investigators who do not accept the neurone theory and hence not the physical changes mentioned. I still think the neurone theory of nerve-structure to be the correct one, but, as I have said, even this is not a necessary part of the explanation of sleep or hypnotism.

During the waking hours of the individual the various nerve-cells are in relation with each other, the dendrites being in contact or in physiologic relation with the collaterals or other processes of neighboring cells. In sleep the processes are retracted and the cells of the cortex, being separated, cannot discharge any function when in this condition. Many authorities regard this as the probable explanation of sleep. In hypnotism, the sleep induced is a partial one, but it is the same intrinsically as ordinary sleep. In lethargy or catalepsy or somnambulism the sleep is only partial. The principle followed in the induction of hypnotism is to suggest sleep and to induce it by fatigue of some part of the body—the ordinary way in which physiologic sleep comes. To do this it is common to select some muscles that are easily fatigued and of these the ocular muscles are perhaps the best. As a common expedient in tiring the ocular muscles, the patient is asked to look intently at some object, preferably a bright one. This object is then brought nearer and nearer to the patient's eyes, thus causing greater effort of convergence to be exerted, until the focusing becomes very difficult and fatigue of the muscles is induced. When this stage of fatigue is reached the pupils dilate and the eyes are seen to diverge instead of converging as before. If, when the patient is in this state, sleep is suggested to his mind, the latter follows very readily. With the patient in a partial sleep and with the eyes closed no information regarding the outside world or the operator can be obtained from the sense of sight. They hear only what the operator says and practically by the avenue of the ear alone suggestions reach the cortex. The skin and muscles may have a small part in transmitting suggestions, but it is mainly by the ears that this is possible. If, then, suggestions are made to the patient, they are accepted as they are made. All the other senses excepting hearing being shut off, the impressions on the cortex come by way of the ear and are not corrected or contradicted by sight or the other senses. There is no readjustment of statements heard by what is seen, and, therefore, the patient believes whatever the operator suggests.

The patient whom I bring before you is a young woman who has consulted many physicians. Within the last year she has consulted the great exponents of hypnotism in London, France, Germany, and Vienna. In the last place Professor Benedict induced hypnotic sleep by magnetism, a powerful horseshoe magnet being placed over the occipital region. When this young woman first came to me she complained of a pain in the shoulder. This was at first regarded as rheumatic in character and was treated as such, but antirheumatic remedies proved of no avail. An examination revealed the presence of numerous stigmata of hysteria. She then told of being cured of similar symptoms by hypnotism, and I tried that with the result that the pain was relieved and never returned again in the shoulder. But other portions of the body are affected and symptoms appear from time to time in a continuous cycle, being relieved by hypnotic suggestion, only to reappear after a time in other places. The patient now has headache and pain in the eyes, although the symptoms are more general than local in character.

Anything will do to attract the eyes of the patient in order to induce fatigue of the ocular muscles. I use the bright handle of an instrument, but my finger would do just as well, as sleep is readily induced in this subject. The patient is now in a condition of partial sleep, which is attended by muscular relaxation. Cata-

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lepsy and somnambulism could be readily induced and the patient made to do various automatic acts for our amusement, but I leave such tricks for the professional hypnotist, as they have no part in a medical clinic. Only this state of partial sleep is used for medical purposes, nothing being gained by catalepsy or somnambulism, although they are readily induced.

When use is made of the hypnotic state, we treat the symptoms complained of just as the physician treats symptoms in other ways. I take the patient's hand in mine, as I always do when I practise hypnotism (although it is only in exceptional cases that I have recourse to this practice), in order to reinforce the suggestion. I then say to her that when she awakens she will have no pain or headache and that she will feel buoyant and happy. This should be repeated several times, perhaps ten or more, and should be stated as impressively as possible and coupled with the statement that the pain will never return again.

Shall we now awaken the patient? Not yet, for there are certain precautions to be taken. The suggestion should be made that no one can hypnotize the patient unless she be willing that it should be done. This is especially necessary in patients who have been hypnotized often. This young woman was riding in a street-car at one time and when one of the passengers stared at her she went to sleep. I made the suggestion that she could not be hypnotized unless she were willing, but she remembered the incident in the car and was still fearful. I then hypnotized her again and said that no one but myself could hypnotize her in the future. The incident was forgotten and sometime afterward a young French physician who had made a study of hypnotism was visiting the clinic. He tried repeatedly to hypnotize this patient but failed. I then remembered what I had said and on making a trial sleep was readily induced. A suggestion once made may last for a long time. Others have tried to hypnotize this patient but have failed because my suggestion still remains, it having never been removed. The hypnotists she visited when abroad were also unsuccessful. In Vienna, Professor Benedict was probably successful in inducing sleep by magnetism, because the suggestion I made did not include that method of inducing the hypnotic state.

In addition to the disappearing of the symptoms and the fact that no one can hypnotize her unless she be willing, a third suggestion should be made to the patient before she is awakened. That is the statement that she will feel well and comfortable after she is over the sleep and will not be tired from the fatigue induced. This is necessary because the treatment is more or less exhausting.

How shall we awaken the patient? This can be done as from normal sleep by loud talking, clapping the hands, etc., if the sleep has been slight. If it has been a profound one the patient cannot be aroused so easily. But in either case she can be awakened by suggestion, which is the better way of doing. I will make the suggestion that this patient will awaken in one minute. Any time could be given, as five or ten minutes. It is curious how the actual time of awakening in these cases corresponds to the time suggested. The patient awakens, says she feels a little dizzy, but better than she did before. As she becomes more thoroughly roused she feels better, and, finally, after a minute or two says she feels all right again and that the disagreeable symptoms from which she had suffered have disappeared.

There are certain important things to remember if hypnotism is practised at all. First, there should always be present witnesses of the same sex as the patient. This is as important, or even more so, as when ether or other anesthetic is being given. A nurse, or, still better, friends of the patient should be by in all instances. The reputation of a physician could readily be damaged if witnesses were not present. Second, if hypnotism is ever used, it must be for plain and obvious purposes and in proper cases. The physician should be honest with his patients and tell them what the process is and that the purpose is to relieve the symptoms. Third, it should be remembered that the hypnotic state is induced by fatigue and that if it is prolonged or carried to a profound degree the patient may suffer severely from exhaustion. This patient is of a hysteroneurasthenic make-up and the hypnotic state is induced with extreme facility. The state of catalepsy may be induced without suggestion, the same also being true of somnambulism. Sometimes there is diuresis after a treatment or the solids of the urine may be remarkably diminished, showing that the process has interfered in some way with tissue metabolism. Knowing this the physician must remember, if he use hypnotism at all, that he is using an expedient which may be productive of harm instead of good to his patient.

Different individuals are susceptible to hypnotism in varying degrees. In some, the hypnotic state is easily induced, while in others attempts will fail entirely. A great deal depends upon the persistence of the physician. Some operators are very persistent in certain cases; for instance, trying for three or four months with one patient and finally being successful.

And now having discussed the theory of hypnotism and the method and precautions to be observed in its employment, we come to the question of what practical value it is to the physician. In my experience it is of very little value and has a very subordinate part in therapeutics. It may occasionally cause a permanent disappearance of the symptoms complained of by the patient, but more often they reappear. The pathologic cause, if present, does not disappear. If symptoms do disappear, others often come in their places as in the subject before us. There is a certain pleasurable sensation in the hypnotic sleep for these subjects. It shuts out all of the outside world and thoughts of their troubles and thus acts to them as a stimulant. They come back week after

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week and thus the hypnotic habit is formed.

Hypnotism is practically limited in its scope to hysterical and neurasthenic patients. In others, where there is an actual pathologic lesion, suggestion can have no influence in its cure. And, further, I find I can accomplish with hysterical patients as much, and even more, by suggestion without hypnotism than with it, hence I rarely employ it. If the physician always acts with a certain reserve and dignity toward his patients he will have great power over them, especially so in the case of neurasthenic and hysterical people. They will watch every movement and look of the physician and if he will say impressively that their headache or other symptom will be better in a little while, the symptom is often relieved. If such patients are restless and excited and the physician gives them a little water or starch or other harmless substance and tells them that they will sleep, they will often do so. This method is much preferable to the use of hypnotism. All other rational means of treatment should be first used before recourse is had to hypnotism, and then it should be used only under the precautions named and to a limited degree. Some of you may never see a case in your lives that needs hypnotic suggestion. It is not a pleasant thing for a physician to acquire the reputation of being a hypnotist. It attracts attention because the public does not understand its principles, and to them there is something uncanny and unpleasant about it. I hope none of you will ever practise it unless under the most exceptional circumstances.

CLINICAL MEMORANDUM.

A CASE OF SPONTANEOUS RUPTURE OF THE UTERUS.

By BRADFORD WOODBRIDGE, M.D.,
of Rocklin, California.

Rupture of the uterus late in gestation from a blow or other injury, or during labor either from excessive contractions or operative manipulation, is an uncommon event, its frequency from all causes, according to Etheridge[1] being one in four thousand labors. Of extreme rarity must be cases such as the one I report, in which in an apparently healthy young woman before the advent of labor and without history of trauma or premonitory symptoms, this accident took place.

Mrs. S., an American, aged twenty-eight years, the mother of one child, was first seen by me on the morning of October 18, 1899. According to her statement her confinement had been due about a week, as she had ceased to menstruate January 27, 1899. For an hour or more she had been having occasional slight pains in the back and abdomen, although she herself doubted whether they were severe enough to have any significance. An examination showed no dilatation of the os, and the patient was told that it was impossible at that time to determine whether the pains were indicative of the onset of labor.

[1] Jewett's Practice of Obstetrics.

During the period of gestation the woman had been exceptionally well. In her previous confinement, two years before, labor had been slow, and delivery had been effected with the forceps. At that time, a few days before her accouchement, she had received a blow upon the abdomen while playing with a child, and she believed labor to have been somewhat premature from that cause.

Three hours after I had seen her she went into a condition of sudden collapse. Examination of the abdomen showed an evenly rounded contour, the fetal protuberances having disappeared. Pressure gave a "boggy feel," which had not previously been detected. The fetal heart-beat could not be distinguished. Digital examination revealed no change in the condition of the os. A tentative diagnosis of "accidental concealed hemorrhage" was made. Two consultants were called, one a surgeon of more than local reputation, and the other an obstetrician of wide experience. It was deemed best to postpone active measures until the patient had rallied in some degree from the condition of collapse. Free stimulation, consisting chiefly of injections of normal salt solution, was employed with slight temporary benefit. All response to the remedies failed, however, and the woman died about thirty hours after the onset of the trouble.

The abdomen was opened two hours after death. A thick layer of clotted blood was found between the abdominal wall and the uterus. Across the top of the uterus there extended a jagged transverse tear. The left hand and shoulder of the child projected through the rent into the abdominal cavity, while the rest of the body was grasped tightly by the uterine muscle, which had contracted like a tissue of rubber.

In speculating as to the cause of the rupture it is to be remembered that the woman had received a blow in the pregnant uterus two years before, severe enough, she believed, to have hastened labor. As a result there may have been a weakening of the uterine muscle at the point of injury. It is also possible that the contractions were more intense than was indicated by the severity of the pain and the condition of the os. An immediate laparotomy might not have saved the patient, but such an operation would have been the sequence of a precise diagnosis.

MEDICAL PROGRESS.

Normal Prophylactic Appendectomy. — The *Medical Review* (March 17, 1900) has recently obtained the opinions of eighty-nine eminent surgeons throughout this country with reference to the advisability of the above operation being done upon children as a routine measure. Only one surgeon, Dr. Pollak, gives unqualified assent, three more approving with some degree of reservation. All agree that a mortality of at least one-half of one per cent. must be expected in the most skilful hands, and if it were so com-

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monly performed the death-rate would be greatly increased, owing to the lack of skill of the operators and the unfavorable surroundings in many cases. The consensus of opinion seems to be that since only about one per cent. of people ever have appendicitis, it would be extremely bad surgery to subject the other ninety-nine to a useless operation, which is not without danger and which is so often followed by post-operative symptoms of adhesions and even hernia. Several advised the removal of a normal appendix while another abdominal operation is being done, provided the patient is not subjected to any further risk. Many strongly urge that the advancement in the treatment of this condition should be made along the lines of an early diagnosis, when an operation can be performed with very little danger and the mortality reduced to a figure not much above that for normal appendectomy. It is the verdict, therefore, of American surgery that normal prophylactic appendectomy is a hope almost barrenless of possibility.

Mammary Cancer.—W. M. Banks (*Lancet*, March 24, 1900) says there are certain dangerous delusions in the mind of the laity and many of the profession concerning cancer of the breast, which lead them to defer consulting the surgeon until the best time for operating has passed. These errors are mentioned: Heredity seems a prominent causative factor in the mind of the laity; pain is thought to be an essential symptom of cancer, but is, as a rule, entirely absent in the early stages of the disease, and the lump is usually accidentally discovered; cachexia, even in a large portion of the medical mind, is considered necessary to the diagnosis, whereas it occurs late in the disease from pain, fetid discharge, septic absorption, insomnia and mental distress; early in cancer the patients are very frequently well-nourished, ruddy individuals. In internal cancers cachexia may very well be present when the trouble is first diagnosticated; nipple-retraction and skin-adhesion are familiar only to the profession; retraction occurs only when the growth is immediately under the nipple; adhesion of the skin to a cancer is of the "pigskin" variety, and is quite characteristic. Chronic mastitis is not infrequently mistaken for cancer. It is more apt to occur in comparatively spare, childless women, and after a time causes the breast to resemble a hard, flat cake, with harder knobs here and there. In these cases, skin-adhesion is rare and when present not of "pigskin" type, and glandular involvement is not present. Deep-seated chronic abscess surrounded by dense inflammatory tissue is very deceptive. Skin-adhesions when present do not cause pigskin dimpling. Exploration is the only certain means of differentiating. The same points are true concerning a small fibro-adenoma, a small, very tight, deep-seated cyst. In order to avoid error in diagnosis, he never removes a breast without first incising the tumor or exploring it with trocar and cannula. A breast tumor should be examined in three ways: The surgeon should first stand behind the patient and reach round to the breast, as this position gives his tactile sense its best advantage; then, from in front he examines the patient sitting and, finally, lying down. The examinations in these different postures develop all the tumor's features. When the diagnosis is once made, extirpation of the breast and axillary contents is imperative.

Cause of Cancer.—An interesting contribution to our knowledge of the etiology of cancer is given by A. Adamkiewicz (*Klin. therap. Woch.*, March 18, 1900). This author holds to the parasitic theory and considers the cancer-cell to be not a typical epithelium, but a species of coccidia which infects those parts of the body most closely in contact with the outer world. Several instances are quoted in which the mere sting of an insect was followed by epithelioma of full malignancy and in which irritation or diminished resistance of the parts involved could not explain the lesion. The fact that gastric and intestinal cancer is endemic in certain parts of France where stagnant water is used in the manufacture of cider, seems to corroborate this theory.

Addison's Disease; Autopsy.—William Fitch Cheney (*Phila. Med. Jour.*, March 24, 1900) reports a case of this disease with autopsy. The the patient was a large robust man, weighing 230 had always been well with the exception of an attack of pleurisy with effusion. Six months before he came under the observation of the writer, the patient was a large robust man, weighing 230 pounds. At that time the man began to feel tired and his appetite began to fail. The weariness increased and his appetite grew poorer until, when he came to the hospital six months later, he could scarcely crawl about, and seemed to have a positive aversion to food. This weariness increased to exhaustion so great that he could scarcely sit up in bed. In the six months previous to entering the hospital he lost sixty pounds and weighed at the time of reporting 170 pounds. At about the same time that the patient began to feel tired, he noticed a peculiar bronze-like discoloration of the skin. This appeared first on the forearms and legs, but gradually extended until the whole body was involved. With the discoloration there was itching, especially marked where the pigmentation was deepest, on the extensor surfaces of the forearms and legs. Here and there in the darkest areas were numerous small brownish-black spots, the size of pinheads, resembling moles. The conjunctivæ and the mucous membrane of the mouth were not pigmented. For a number of weeks before the writer saw him the patient suffered from very violent palpitation of the heart and dyspnea, following any overexertion. The patient slept well, the bowels were regular, and there was no stomach disturbance except the progressive loss of appetite. The general physical examination was negative, except that the action of the heart was exceedingly weak.

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There were no murmurs to be heard over any of the valves, but the tones were exceedingly weak and distant. The pulse was remarkably lacking in volume, in force, and in tension, and at times it could not be found at all at the wrist; its average rate was 90. By means of an injection of tuberculin, and the typical reaction which followed, it was decided that the affection of the suprarenals was tuberculous. At the autopsy the adrenals were both found to be enlarged, and their cut surfaces showed a number of large caseous areas surrounded by grayish-white granulation tissue. Only a small area of normal adrenal tissue remained. The microscope showed diffuse caseation, with beginning calcification in the center. Dense scar-tissue surrounded the caseous areas. Tubercles were found in the liver and also one in the left lung.

Epilepsy; Its Etiology and Pathology.—After reviewing briefly the various theories of the causation and pathology of epilepsy, W. House (*Phila. Med. Jour.*, March 24, 1900), believing that "like causes produce like effects," compares the symptoms of epilepsy with those of diseases which produce or are accompanied by convulsive seizures, resembling more or less the seizures of epilepsy. These diseases are hysteria, tetany, the eclampsias, alcoholism, cerebral hemorrhage, and the apoplectiform and epileptiform convulsions of general paresis. The pathology of the three latter conditions is well known and in certain respects the lesions are of a similar nature. The symptoms of an epileptic seizure, of an epileptiform paretic convulsion, of an alcoholic convulsion, and of cerebral hemorrhage present a marked similarity, so much so that sometimes it is difficult to make a differential diagnosis. Symptoms of cerebral pressure are present in these three conditions and also in epilepsy. In the brain of an alcoholic there is an excessive quantity of cerebrospinal fluid, the ventricles are distended, the brain-substance drips with fluid, and the membranes are dropsical. This is called the "wet brain." In general paresis the ventricles are distended with fluid, there is an increased quantity of fluid in the subdural space, and the whole brain is surrounded with an excessive quantity of turbid cerebrospinal fluid. In both these condition the excessive fluid seems to the author to be the logical cause of the pressure symptoms recognized in convulsions from these diseases. House has witnessed the autopsies of five cases of status epilepticus, and in each instance there was found an excessive quantity of cerebrospinal fluid. Arguing from analogy, House is forced to the conviction that this increase in the quantity of cerebrospinal fluid must bear a causal relation to the convulsions of epilepsy. According to physiologic findings, if the cerebrospinal fluid be suddenly withdrawn, convulsions may ensue; if rapidly increased, coma may be produced. From observation of over two hundred epileptics, and comparing their symptoms with those of sixty alcoholics and those of a large number of paretics, from the findings in the above five autopsies, and from an analysis of recent literature he concludes that: (1) There is no record of pathologic findings which logically explain the symptoms of epilepsy. (2) An increase of cerebrospinal fluid would readily account for the seizures. In many instances it is analogous to the marked increase of fluid in the crania of alcoholics and paretics, and is not dissimilar in clinical effects to the more localized lesions of hemorrhage or abscess. (3) This fluid, physiologically subject to more or less variation in quantity from day to day, is fully capable of pathologic increase, and from analogy must bear exciting relation to the convulsion. (4) Its increase is probably gradual, and to this we may ascribe the auræ. (5) Its absorption probably begins with the third stage of the convulsion (relation and coma), and if this fails, repeated convulsions (staticus epilepticus) ensue. (6) Its superabundance may be due to lymphatic spasm, or to marked disturbance of equilibrium between lymphatic and general circulatory activity, which may be favored by heredity, toxemia, or any of the recognized predisposing causes. (7) This creed applies to the so-called idiopathic epilepsy, as distinguished from the convulsion of Jacksonian epilepsy, although even in such cases this condition will help to explain some otherwise unexplainable symptoms.

Hydrogen Peroxide in Uterine Hemorrhage.—Applied locally this remedy, says R. Platon (*Annales de gyn. et d'obstét.*, Jan., 1900), is antiseptic, deodorant and hemostatic. It causes little or no local irritation, no erythema and no toxic symptoms. It may be employed as a rapid hemostatic in the ear, the mouth or the nose; and of late has been most successful in stopping uterine hemorrhage, when ergot, tampons, soaked in iron solutions, and hot intravaginal douches had not any effect. The peroxide may be applied by tampon, or be injected directly into the uterine cavity.

Muscular Rheumatism.—The diagnosis of muscular rheumatism is a most favorite one among many physicians when an ailment accompanied by pain is found, for which no cause can be discovered. A very interesting article on the pathology and treatment of this common condition is given by I. Adler (*Med. Record*, March 31, 1900). The usually accepted opinion is that the disease is one in which muscular pain is the prominent symptom, accompanied by functional disturbances and even obstinate contractions, but which depend on no structural lesions. The author, however, believes that the underlying cause of every case of muscular rheumatism is an inflammation, not necessarily confined to the muscle, but as far as the latter is concerned is an interstitial inflammation, or a myositis interstitialis. It may be mild in form and subside without much structural change of the muscle, or it may go on to a gradual degeneration of the muscle cells and a replacement fibrosis, leading to the formation of considerable masses of indurated fibrous tis-

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sue. In muscular rheumatism the nearest joints usually suffer and the adjacent tissues may also be involved, such as the fasciæ, tendons, cellular tissue, and especially the nerves. Thus, a typical rheumatic neuritis may be caused in which an interstitial inflammatory process exists. Furthermore, these inflammatory conditions give physical signs which may be found in nearly every case in the form of circumscribed patches of swelling and infiltration. These may be located at the point of pain, but in some cases of lumbago, for instance, the pain will be referred to the whole lumbar region, and a careful search will reveal a small nodule or area which is very tender and from which the pain radiates in various directions, probably due in these cases to the involvement of the nerves. The degree of infiltration varies greatly and differences in consistency, elasticity and size are to be carefully noted, together with a comparison of the two sides. The clinical picture differs much. It may resemble an acute infectious disease with slight temperature, swelling, redness, tenderness and pain, or it may exist as a chronic affair, appearing at intervals in various and widely distant regions, or it may cling obstinately to one spot, occurring again and again; as the common lumbago, the rheumatic *caput obstipum* (stiff neck) or certain forms of intercostal pains. The author also believes that these conditions are not infrequently accompanied by endocarditis. Etiologically a strain is very important, and, although it may be the direct cause of an acute myositis, it usually acts by exciting an exacerbation of the chronic interstitial inflammation which already exists. Several reported cases of apparent cholecystitis or appendicitis were found to be acute myositis of the abdominal muscles. It is believed that rheumatic myositis is an infection caused, most probably, by cocci, still less virulent than in rheumatic arthritis. Their presence has not yet been proven, nor has their mode of invasion been found. For the acute cases, rest, ice-bags to the affected parts, and salol internally are indicated. After the acute stage these infiltrations demand careful attention and must be removed by local measures. Hot baths, electricity, gymnastics and iodides may improve the general health but do not remove the local lesion. Massage by an accomplished masseur is the most efficacious treatment, and is successful in nearly every instance. It is necessarily quite painful at first, but as the infiltrations are reduced the painfulness is gradually diminished. Where muscular cicatrization has occurred, excision must be employed. This has been done repeatedly with excellent results.

Acetonuria.—The most useful clinical test for acetone in the urine, according to Ronsse (*Annales de gyn. et d'obstét.*, March, 1900), is that of Lieben which is performed by adding a few drops of Lugol's solution to the first 10 c.c. obtained by distilling 400 c.c. of fresh urine, then adding sodium hydroxide solution until the brown color disappears. In the presence of acetone a milky precipitate of iodoform is produced, and may be recognized by its violet coloration with caustic soda and thymol, or by its yellow hexagonal cystals under the microscope. Acetone is found in small quantities in the urine normally, and it occurs pathologically in diabetes, cancer, phosphorus or chronic lead-poisoning, certain digestive troubles, hysteria, in prolonged fevers, the acute exanthemata, in eclampsia and during pregnancy. It is especially marked during prolonged labor, and many writers claim that it indicates death of the fetus, but in a study of fifty-three cases Ronsse finds that it has no such significance.

Electrical Treatment of Arthritis Deformans.—M. A. Cleaves (*N. Y. Med. Jour.*, March 31, 1900) reports two cases of rheumatoid arthritis which were markedly benefited by the use of electricity. In one case Franklinic electricity was employed with connective discharge from crown electrode for ten minutes, and with the brush electrode to the entire general surface, and especially upon the affected part to relieve pain and disability. In the other case a continuous current bath was given with the patient immersed in normal saline solution. An electromotive force of ten volts was used for ten minutes, followed by a sinusoidal current administered in the same way, full power of the alternator (1496 alternations to the second) for ten minutes. Attention is called to the fact that in both these cases the expenditure of energy was to the entire organization, with the purpose of setting up such nutritional changes as would result in relief from pain and improve the general health.

Treatment of Anal Fissure.—Fissure of the anus, according to I. Boas (*Revue d'obstét. et de gyn.*, Jan., 1900), may be successfully treated without operation, as follows: The patient is to remain in bed on fluid diet for one week, taking ten drops of tincture of opium three times a day. Absolute constipation being thus ensured, the fissure is sprinkled with iodoform or calomel, and is not touched with any antiseptic liquids. After eight days a large dose of castor oil is given and the patient told not to let his bowels move until the stools are liquid. Often the first defecation is quite painless, and the fissure is cured. The procedure may rarely have to be repeated.

Causation of Cancer.—J. Sawyer (*Lancet*, March 24, 1900) quotes statistics to the effect that mortality from cancer has doubled during the last thirty years in England and Wales. The consumption of food *per capita* has also increased, especially in meat foods. The upper middle classes who use meat in moderate quantity and well cooked do not show so great an increase in cancer as the great masses of people who eat excessively of meat usually none too well cooked. Therefore, he concludes that development of cancer is largely favored by increased use of food especially of the proteid type.

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Perineal Prostatectomy.—P. J. Freyer (*Brit. Med. Jour.*, March 24, 1900) publishes a new method of perineal prostatectomy adapted to selected cases. First, a perineal section of the urethra is made and the left forefinger inserted into the bladder. From the posterior end of this wound a crescentic incision is made to the coccyx on either the right or left side of the anus, and the dissection carried up into the corresponding ischiorectal fossa. The finger in the bladder now presses the prostate down into the wound, the capsule of which is reflected and the necessary amount of hypertrophied tissue removed, care being taken to enter neither urethra nor bladder. A drainage-tube is fixed in the bladder, and the ischiorectal wound packed with gauze. The advantages of the method are: The preliminary urethrotomy allows a finger in the bladder and with another finger in the rectum the surgeon can make a careful complete examination; the bladder finger can hook the prostate down into the wound, thus facilitating the dissection; the capsule is easily reflected and the finger in the bladder allows the surgeon to feel the approach of the excising instruments to the bladder, and he can remove the whole growth, except a thin layer to support the mucous membrane, without entering the urinary tract and so infecting the deep ischiorectal wound. The perineal tube carries off the urine and so prevents it infecting the wound. The drawback is that the operation is limited in its application. Middle-lobe hypertrophy and a large prostate in a very fat person are not operable by this method, since the finger is not long enough to hook over the growth to depress it.

Uses of Hematogen.—Hematogenum siccum already has sufficiently proven its value in primary and secondary anemia, but J. A. Goldmann (*Klein. therap. Woch.*, March 18, 1900) finds it no less efficient in other chronic constitutional or infectious disorders characterized by disturbed nutrition and defective assimilation. In tuberculosis it can be well combined with antiphthisical remedies and even advanced cases have been seen to improve marvelously. In scrofulosis, rachitis and chronic catarrhal affections similar results were obtained. It is usually well taken plain, but can readily be given with other articles of food, such as cocoa.

Cardinal Sign of Colles' Fracture.—M. W. Ware (*Med. Record*, March 31, 1900) says that in 300 cases of Colles' fracture the much-talked-of silver-fork deformity was present in less than ten per cent. of cases, and its absence is therefore of little diagnostic significance. A better ground of diagnosis depends on certain fixed anatomical relations. The styloid of the radius is always at a lower level than the ulnar styloid. In ninety-five per cent. of Colles' fractures there is impaction, and as a necessary result the radius is shortened and the radical styloid rises to or above the level of the ulnar styloid. This sign is so constantly present as to be the cardinal pathognomonic sign of Colles' fracture and gives one a reliable guide for complete reduction. This diagnostic point is mentioned by few and emphasized by none of the works on fractures.

Albuminuria; Its Prognostic Value.—The mass of evidence from the autopsy-table shows conclusively that chronic nephritis exists and is the recognized cause of death in a large number of cases. A comparison of the histories of these cases and the autopsy findings shows that little reliance can be placed on mere urinary examination as a means of absolute diagnosis or prognosis of Bright's disease. It is acknowledged that chronic interstitial nephritis can exist without albumin, without casts, and without uremic symptoms. It is the experience of C. A. Tuttle (*Jour. Am. Med. Assoc.*, March 31, 1900) that albumin and casts, either hyalin or granular, or both, can exist in the urine and yet the health of the individual be unimpaired for years. The writer's experience leads him to believe: (1) That Bright's disease may exist without the ordinary urinary manifestations, *viz.*, albumin and casts. It may begin, run its course, and terminate fatally without at any time showing other urinary symptoms than continued low specific gravity or frequent micturition. There are also cases which show albumin and casts at one period, but these symptoms disappear and the patient has good health for an indefinite number of years. The writer cites a case in which the diagnosis of nephritis was based upon the edema and uremia, albumin and casts being found, and the diagnosis was confirmed by autopsy. In another case albumin was found in only one-third of the seventy-five examinations made during three months. (2) That positive urinary indications, *viz.*, albumin and casts, may be found in the normal urine and hence, do not necessarily mean Bright's disease. The writer has under observation seven cases of healthy individuals in whose urine albumin has existed from two to nine years, and one hale and hearty man who has had a considerable quantity of albumin in his urine for twenty years. (3) That, given a case of chronic Bright's disease attended with albuminuria, the fact of its presence, its constancy or its amount, has absolutely no prognostic significance. From observations of over one hundred cases the writer believes that the prognosis in chronic nephritis should be based on the amount of destruction of the renal parenchyma, but the amount of albumin in the urine is by no means indicative of such destruction. Moreover, there is nothing known as yet that serves as a measure of such destruction. Albumin may simply indicate a lesion of the glomerular filtering membrane, and other means must be found to ascertain its extent or gravity. Cheney cites a number of writers in support of these opinions of his.

Carcinoma at Sixteen.—J. H. Abram (*Jour. Path. and Bacteriol.*, Feb., 1900) reports a case of primary carcinoma involving the glomeruli of the kidney in a boy sixteen years of age. This condition he regards as almost unique, there being

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but two cases on record resembling the author's. The character of the cells was such as to make him regard the tumor as having originated in the glomeruli and, possibly, associated with a persistence of the epithelium of the primitive renal tubule, thus supporting the Cohnheim embryonal origin of such new growths.

Treatment of Diabetes Mellitus.—G. D. Barney (*N. Y. Med. Jour.*, March 31, 1900) divides the treatment of diabetes into dietetic and medicinal. The object of the former is to exclude as far as possible all sugars from the regimen, but in some persons, especially those advanced in life, a more liberal diet seems to be far more beneficial. The diet-list should include soups, fish, poultry, game and meats, spinach, cabbage, cauliflower, beans, asparagus, tomatoes, eggs, cheese, butter, tea, coffee and cocoa. The indications for medicinal treatment are to curb and regulate the nervous apparatus which controls the glycogen function; to improve the blood and circulatory system, and to prevent the micro-organisms from interfering with the complete and perfect digestion of the food products. He believes that these indications are met in a combination of the double bromide of gold and arsenic which he has found most efficacious in many cases, given in doses of five minims, three times a day, after meals, and increasing the dose one minim each day thereafter until the physiological limit has been reached. This is shown by the evidences of arsenical poisoning, such as puffiness of eyes, a tendency to diarrhea, colicky pains and gastric disturbances. In some cases ten-drop doses will cause the above symptoms.

Leucocytosis.—Although the counting of leucocytes has become an almost routine method of aiding in differential diagnosis in regular hospital work, and also to determine in many cases the indications for operation, the ordinary physician still finds it usually too troublesome for private practice. Its value, however, should be thoroughly appreciated and the method employed more often than it is at present. J. H. Bursch (*N. Y. Med. Jour.*, March 31, 1900) reports several cases in which the determination of the leucocytes materially influenced the diagnosis. In one case, with typical symptoms of appendicitis, an absence of leucocytosis led to a thorough investigation which revealed a condition of impacted feces. In pneumonia, there is usually a leucocytosis of a polynuclear type. In severe cases the leucocytes are enlarged, the nuclei often fragmented and irregularly stained. When a change for the better occurs the cells become more distinct, the nuclei clear and deeply stained. In one severe case with a deficient leucocytosis, the polynuclear cells were of immense size, badly stained and with fragmented nuclei. Nearly all inflammatory and infectious diseases are characterized by leucocytosis, the principal exceptions being typhoid fever, measles, influenza, malaria and tuberculosis. Some observers believe that an early diagnosis of phthisis can be made out by the presence of a degenerative process within the leucocyte. The author has not been able to confirm this, but always finds the peculiar degenerative processes present in the later stages. In tuberculosis the large mononuclear lymphocyte seems to predominate.

Locomotor Ataxia.—A review of the pathology, symptoms, early diagnosis and treatment of tabes dorsalis appears in the *Med. Record* (March 31, 1900) by B. C. Loveland. The fibrous degeneration is supposed to begin peripherally either in the sensory nerves or the posterior spinal ganglia and travel along the affected nerve to the cord, and then passing upward to the cell into which the afferent impulse is discharged. Among the early diagnostic symptoms he mentions a feeling of great weakness, a tendency to stagger at night when going to bed, a feeling of numbness in the limbs, a velvety, or padded sensation in the bottoms of the feet, and sharp, shooting pains in the legs. An early sexual excitement may be noticed, followed by a partial or complete impotence. Crises sometimes occur soon after the onset, most often gastric, accompanied by intractable vomiting. The pupils may be unequal in size, may be Argyll-Robertson in type, or may be sharply and firmly contracted. Loss of knee-jerks is especially common and among the cerebral symptoms, insomnia, vertigo and depression may be mentioned. For the relief of pains the author uses phenacetin, gr. v., and caffeine citrate, gr. ss., given as occasion requires. In early cases it is almost always advisable to try for a short time a specific treatment, since from eighty to ninety per cent. of the cases are said to have had syphilis. Rest is very important, and yet proper exercise is also essential to teach the patient how to perform with care and precision, aided by sight, those motions which can no longer be done automatically. Massage and faradism give relief in some instances. Stretching of the spine by the Sayre apparatus has now been generally discarded on account of its dangers. The same result can be obtained by seating the patient on the floor with legs extended and then having him bend forward as far as possible, the physician adding graduated pressure on the head. This position is supposed to increase the size of the openings between the vertebræ through which the nerves and blood-vessels pass, thus increasing the circulation of the spine.

For Gingivitis.—

℞ Tinct. krameriæ ..... ℥ss
Tinct. opii ..... ℥ i
Tinct. myrrhæ ..... ℥ ss
Aq. camphoræ ..... ℥ iii.
M. Sig. Mouth wash.—*Sabatir.*

For Fetor of Breath.—

℞ Calx chlorat ..... 3 iss
Aq. dest ..... ℥ i
Spiritus ..... ℥ i
Ol. rosæ ..... gtt. ii.
M. Sig. One teaspoonful in a glass of water as a gargle.—*Bartholomew.*

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SATURDAY, APRIL 7, 1900.

INOPERABLE SARCOMATA.

IT is less than twenty years since one of our most distinguished American surgeons said that he did not think he had ever seen a case of cancer that had been cured even by the most radical surgical measures in use up to that time. Operative recovery took place, succeeded by a period of comparative ease of mind and physical comfort for the patient, but inevitable recurrence closed the scene.

Recent advances in surgery, many of which we are proud to say are due to American surgeons, have removed this opprobrium. Of the radical cure of cancer we may now speak with confidence. It remains true, nevertheless, that about three-fourths of all the malignant tumors, either from extension or metastasis, become eventually inoperable. So rapid is the growth of sarcomata, especially sarcomata of the internal organs, that not infrequently these tumors are seen by the surgeons only when they have gotten beyond the reach of aid by operative procedure. Nearly every great surgeon has, however, reported one or more cases in which infection of the tumor, either at an incomplete operation or from an exploratory incision, has been followed by complete and lasting disappearance of the neoplasm. The therapeutic secret thus, unfortunately, so obscurely hinted at is a most precious one and the endeavor to wrest it from Nature must certainly be alluring.

The use of mixed toxins of the bacillus erysipelatosus and the bacillus prodigiosus is the only attempt to follow in Nature's footsteps in this matter that has thus far met with any mead of success. Seeing the absolutely hopeless nature of the cases for which the "mixed toxins" treatment is suggested, it should be borne in mind that scarcely a month passes by in which some notable improvement or absolute cure by this method is not reported. In a recent review of the subject before the New York Academy of Medicine, Dr. Coley, the inventor of the "mixed toxins" treatment, reported that out of 140 cases treated by himself more than 50 per cent. have been markedly improved, the rapid course of the malignant affection has been rendered slower for a time at least, and many symptoms have been relieved. In about 10 per cent. of the cases absolute cure has resulted. In the 230 cases reported by various observers nearly the same proportion of improvement and cures has obtained.

A radical surgical operation, wherever it is deemed possible, must still remain the ideal treatment of sarcomata, but for hopeless cases and even as an adjunct to surgical treatment the injections of the mixed toxins seems indicated. The mortality from the injections is practically nil. Two deaths have been reported in 230 cases and these, in hopeless sarcomata, with the well-known liability they involve of sudden serious complications, can scarcely be thought as due entirely to the injections. If twenty years ago a method of treating mammary cancer had been devised which brought about the radical cure of 10 per cent. of the cases, it would have been considered a most welcome addition to therapeutics. The use of the mixed toxins for sarcomata would seem to be at least as effective in its results as were the old partial operations for mammary cancer. Disappointing, then, as is the treatment in many patients, its possibilities must not be forgotten, especially in the hopeless cases. Further observations may yet win for us the secret of the powerful influence of the toxins on certain tumors and, perhaps, reveal a great therapeutic principle.

THE PATHOLOGICAL INSTITUTE.

AT the time of writing, no change has been made in the attitude of the State Commissioners

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toward the Institute. Their policy evidently has resolved itself into a determination to rule or ruin. In a previous editiorial we called attention to the fact that the Commissioners were assuming to themselves altogether too unwarranted a rôle when they presumed to pronounce upon the fate of this institution or even to control in too dogmatic pronunciamentos the range of its excursions into general science.

It has been and is an acknowledged fact that in psychiatry the various theories have been exploited, worked out and exhausted. The routine asylum work consisted in simply going around in a circle, with no particular point of departure and no definite termination. It was the conviction that some new line of enquiry must be blazed through the tangled mass of facts to lead out into brighter light, a freer air and a loftier point of view. The hope of such a consummation lay in a Pathologic Institute that should have the greatest latitude in its research, a free hand and a generous support. Reasonable time too was to be allowed it to work out its conclusions and substantiate its theories. What are the results? An immense amount of work has been done; some substantial conclusions have been reached—new in their conception and application, and many others are in process of incubation. But in exploiting a new field of enquiry all reasonable clues must be followed although the majority of them prove illusive. Much time is thereby consumed and the results are simply negative or too illusory to follow. It is to be feared however that the State Commission whose investigating committee had prejudged the situation has been too hasty in its condemnatory judgment. The verdict of the State Commission in Lunacy, of which Dr. Wise is the President, and of his committee of judges, of which Dr. E. Cowles of McLean Hospital is the Chairman, is hostile to the scientific psychiatric work carried on by the Institute. The verdict is: No scientific work in psychiatry; return to practical routine.

How long will it require for the so-called "experts" and men of "authority" who have such absolute control of psychiatry as to suppress anything that goes counter to their preconceived notions to realize that restricted traditional and routine lines are not the only lines of research in psychiatry having practical outcomes? Will the psychiatric profession permit with impunity a man to set himself up as the leading psychiatrist of the country and suppress an Institute the value of whose scientific work is acknowledged at home and abroad? Is it to be permitted that an Asylum Superintendent shall become a psychiatric pope and strangle all scientific life-activity that does not conform to his ideas and prejudices? Is psychiatric science to be relegated to the middle ages and throttled by inquisitorial committees? Shall American Psychiatry submit to the indignity of having a grand inquisitor at the McLean Asylum? These are some of the questions we ask the medical profession of New York State to consider before they supinely submit to the execution of the judgment already recorded by the State Commission in Lunacy.

MASTERS OF MEDICINE.

THE fifth volume in the series of "Masters of Medicine," published by Longmans, Green & Co., has just appeared. The volume is devoted to the life and career of Herman Von Helmholtz and is written by John G. McKendrick. The previous volumes were devoted to John Hunter, William Harvey, Edward Jenner, and Sir James Simpson. The volumes are all of uniform size and binding and are most attractive in every particular. The books are not large, indeed, they can be carried conveniently in a large overcoat pocket, and so can be always at hand to enable the doctor, if he has been thoughtful enough to slip one of these volumes into his pocket, to fill in any odd moments that may fall to him in making his rounds. The medical man can find no greater inspiration for hard work and great achievements than in these admirable sketches of these masters in medicine. The salient characteristics of the various men discussed are presented in a clear and concise manner. Every doctor should have these volumes within convenient reach. The more frequently he consults them the loftier will be his aims and the greater his devotion to his chosen profession.

ECHOES AND NEWS.

NEW YORK.

A New Clinic Building.—Through the beneficence of a wealthy New York lady a clinic building, adjoined St. Bartholomew's parish house on East Forty-second Street, is about to be constructed. It will cost $150,000 and will have an endowment of $100,000. It will be devoted to dispensary and hospital purposes.

The Middleton Goldsmith Lecture.—Under the auspices of the New York Pathological Society, the Middleton Goldsmith Lecture will be deliv-

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ered at the New York Academy of Medicine Friday evening, April 13th, at 8:30 o'clock, by Professor Simon Flexnor, Professor of Pathology in the University of Pennsylvania, subject: The Pathology and Etiology of Dysentery. The medical profession is cordially invited to attend.

Nurses Harmonize.—The nurses of the alumnæ associations of the Bellevue, New York, Post-Graduate, and Presbyterian Hospitals combined this year to have a course of lectures upon subjects of practical interest to their profession. One of the benefits of the lectures has been the increasing feeling of comradeship among nurses of different schools.

Dr. Chapin Medical Examiner.—The State Board of Regents has appointed Dr. Edward Chapin, of Brooklyn, a member of the State Board of Medical Examiners to fill the vacancy caused by the death of Dr. A. R. Wright, of Buffalo.

New Hospital for Women.—The Hospital Guild of the New York Medical College and Hospital for Women is rapidly accumulating a fund with which to erect a hospital building in connection with the medical college in West One Hundred and First Street. The land has recently been purchased and the building is expected to be ready for occupancy in the fall.

The State Sanatorium.—The bill providing for the establishment of a State hospital in the Adirondacks for the treatment of patients in the incipient stage of pulmonary tuberculosis has passed the Senate, but is meeting with opposition in the Assembly. A delegation of physicians headed by Dr. George W. Brush, of Brooklyn, called upon Senator Platt recently and urged him to use his influence to secure the passage of the bill. Senator Platt assured his visitors that he considered the bill a good one and would do all he could to secure its enactment.

Contagious Diseases.—For the week ending March 31, 1900: Measles, 853 cases and 31 deaths; diphtheria, 253 cases and 37 deaths; laryngeal diphtheria (croup), 16 cases and 8 deaths; scarlet fever, 159 cases and 16 deaths; smallpox, 1 case; chicken-pox, 27 cases; tuberculosis, 219 cases and 171 deaths; typhoid fever, 17 cases and 6 deaths; cerebrospinal meningitis, 9 deaths. Totals, 1545 cases and 278 deaths.

Christian Science Defined.—Mr. William A. Purrington, the counsel of the County Medical Society, in a lecture delivered on Sunday last, before the class for the discussion of present day problems at the Broadway Tabernacle, defined Christian Science as follows: "Christian Science is the presumptuous assertion that in 1866 God revealed to a chronic invalid—drifting from one physician, one school of medicine, one phase of quackery, to another, as the hysterical do—truth that during long centuries He has hidden from priests, scholars, poets, and even the simple, and gave to her a key to unlock the sealed book of the Scriptures, with the extraordinary result that, to use the discoverer's own words, 'Most of the knowledge I had gleaned from schoolbooks vanished like a dream.'"

Obituary.—Dr. John Cooper, said to have been the oldest practising physician in Brooklyn, died on Thursday at the Seney Hospital, where he had been treated for three weeks for gangrene of the foot. He was eighty-five years old, and was born in London, England. He was graduated from the Royal College of Surgeons in 1837, and for some time after that date traveled through the British possessions in South Africa as Surgeon to the British Army. He was a member of the New South Wales Medical Board for a number of years. He settled in Brooklyn in 1858, after having lived in Huntsville, Ala., for about twelve years. He was an honorary member of the Kings County Medical Society; Clinton Commandery, Knights Templar; Kismet Temple of the Mystic Shrine, and of the Brooklyn Masonic Veterans. He was also a thirty-third-degree Mason. He leaves a married daughter.

Medical Legislation.—The bill exempting the Bath Soldiers' and Sailors' Home from the supervision of the State Board of Charities has passed the Assembly. This does not prohibit inspection by the State Board of Health. The bill providing for the establishment by the City of New York of a hospital for the treatment of pulmonary tuberculosis, and appropriating $350,000 therefor, has passed the Assembly. The local board of health is to have jurisdiction over the new hospital. The Governor has signed the bill authorizing the transfer to New York City of the property of the Brooklyn Homeopathic Hospital. The conditions upon which the property is transferred are that it shall be maintained by the City as a homeopathic hospital. A bill has been introduced in the Assembly giving to the driver of an ambulance in New York City when on duty the right of way over all vehicles in the streets, except United States mail coaches. The bill providing that the Gerry Society should be subject to inspection by the State Board of Charities has been stricken from the calendar, and will probably not be heard of again.

Charities Conference Planned.—The State Board of Charities has undertaken to initiate a movement for the organization of a conference of charities and correction, designated to meet annually in this State, for the purpose of considering and discussing questions of importance in relation to the public and private charitable and correctional work of the State. The proposed conference will be made up of delegates from all the institutions of such nature. The present purpose is to form a provisional committee of fifty, as representative as possible, which shall undertake the organization of the conference and shall arrange a program for its first annual session, to be held, if possible, at Albany, October next. Dr. E. V. Stoddard is chairman of the committee.

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of the Board of Charities which has this matter in charge.

The Culture Test for Diphtheria at Ithaca.—Dr. Eadie, of Ithaca, N. Y., differed from the Health Board in regard to the quarantining of houses where suspected diphtheria patients were residing during the recent epidemic in that city, and would not respect the rules laid down by the Board. He objected to the quarantine which the Board put on the residence of one of his patients, for the reason that he considered his patient had recovered entirely from the disease. The Health Board ordered a culture to be made. Dr. Eadie made one and sent it to the Health Board, which found in it diphtheria bacilli and ordered the doctor to subject his patient to the quarantine. Then Dr. Eadie stated that he had made the culture from his own throat. Upon this the Board ordered Dr. Eadie to the contagious ward of the City Hospital. Dr. Eadie went to the Hospital, and while there consulted counsel, who advised him to leave the Hospital without considering the Board of Health. This he did and, moreover, declared that he was exposed to contagious diseases while in the ward and that if he should become afflicted with any of them it would go hard with the men who were responsible for his confinement there. Up to March 29th the Health Board has taken no action.

PHILADELPHIA.

Health Report.—The death-rate in this city is abnormally high at present. The number of deaths for the week ending March 31st was 679, an increase of 42 over those of last week and of 175 over the corresponding week of last year: Contagious diseases: Diphtheria, 81 cases, 15 deaths; scarlet fever, 23 cases, 4 deaths; typhoid fever, 79 cases, 13 deaths. There were 29 deaths from influenza.

Almshouse Officials Censured.—The Coroner's jury which held an inquest upon the body of an inmate of the Philadelphia Hospital has censured the officials for detailing inmates suffering from nervous diseases to attend patients. The man in question died of heart-disease, his death being hastened by a broken arm alleged to have been caused by the roughness of his attendant who was one of the patients. The Coroner also severely arraigned the management for this practice.

Gouty Uterus and Appendages.—At the German Hospital March 31st Dr. John B. Deaver found an interesting condition in the pelvic organs of a woman operated upon. The case had been diagnosticated uterine fibroid before it was sent to the hospital; but from pelvic examination and the fact that certain fingers of one hand were flexed and contained calcareous deposit in the contractures, a diagnosis of a similar deposit in the pelvis was made. Operation verified this. Portions of the uterus, tubes, and the ovaries were the seat of calcareous deposit, this filling the pelvis with a nodular, irregular mass. The entire mass was removed by a supravaginal hysterectomy. The patient was fifty-two years of age.

Academy of Surgery.—At the meeting of April 2d, Dr. F. J. Stewart reported a case of greenstick fracture of the fifth rib in a boy six years of age. Pneumothorax followed, the apex beat of the heart being at the right nipple line. The pleural cavity was aspirated several times, but the condition was not cured until drainage was made. The boy was discharged the seventy-sixth day, came back nine days later with pneumonia of the right base, and died five days after.

Dr. Orville Horwitz described a case of urethrorectal fistula due to an acute posterior urethritis. The fistula was finally cured after three operations, one of these being a preliminary suprapubic cystotomy.

Dr. R. G. Le Conte exhibited a specimen of intraligamentary fibroid with beginning carcinoma of the fundus of the uterus. The patient was a single woman thirty-six years of age. The tumor extended two inches above the umbilicus, the growth projecting from the left side of the uterus and being covered by the folds of the broad ligament. The uterus was amputated at the level of the internal os. After removal a carcinomatous degeneration of the fundus of the uterus was found. This extended to within three-fourths of an inch of the level of amputation. The question of removing the stump then arose. Dr. C. B. Penrose stated that he had removed the uterus in three cases for some other reason and had found carcinomata extending to very nearly the point of amputation. The last case was operated on four years ago and in none of them had there been a recurrence. Hence, operation has not been suggested in this case.

County Medical Society.—The meeting of March 28th was devoted to a consideration of the menopause. Dr. John G. Clark gave a lantern demonstration of "The Anatomical Basis." This is founded on the arrangement of the vessels in the center of the ovary. They are numerous and of a corkscrew shape, and when congested cause the pushing out to the periphery and rupture of the Graafian follicles, this congestion beginning several days before menstruation. After a time the blood supply from this central tree is not sufficient to nourish the follicles as the central area becomes filled in with scar-tissue. This forms the anatomical basis, as follicles are still found at the periphery after the menopause but do not get nourishment enough to develop and rupture. The menopause is thus not the result of a physical condition, as women are in the prime of life at that time, but is due to the local condition in the ovary.

Dr. J. B. Chapin spoke of the "Psychoses of the Menopause." He stated that these psychoses are not an entity, the women who have them at that time being those of a highly neurotic tendency or those who have suffered from attacks of in-

sanity during their menstrual life. Of the patients admitted to the insane department of the Pennsylvania Hospital during the age of puberty, between the fifteenth and twentieth years, there were 284 men and 276 women. At the period of the menopause, or between the forty-fifth and fifty-fifth years, there were 975 men and 876 women. It is thus seen that at the age of both of the important sexual periods of the female more males than females are afflicted with insanity.

Dr. J. M. Andrews discussed the "Cardiac Manifestations." In the majority of the instances of marked cardiac involvement a neuropathic tendency is the underlying and predisposing cause. He has observed two cases of tachycardia, one after the natural menopause, the other after operation. In both cases the pulse reached 200 per minute for an hour or two at a time. The intervals between the attacks were two to three months in one case. One case of bradycardia was observed. Arythmia is the disturbance found in obese subjects. All forms are aggravated by a premature menopause.

CHICAGO.

St. Anthony's Hospital, Rock Island.—A Training School for Nurses has been established in connection with this institution.

Chicago Woman's Club.—This Club has started a movement to establish a hospital, and in its course of instruction women will be trained for the work of the Red Cross Society.

Will of Dr. Edward L. Holmes.—The will of Dr. Holmes was admitted to probate March 26th. The estate is valued at $55,000, of which $50,000 is personal property.

Food Adulteration.—Professor C. L. Kennicott said that during his term as chemist to the Chicago Health Department, he had examined almost every variety of food, with the result that he was convinced that nearly all manufactured products sold for consumption by man and beast are adulterated. The evils of this practice fall most heavily on the poor.

Child-Study Committee of the Board of Education.—The Child-Study Committee of the Board of Education has asked permission to assume charge of the testing of the eyesight of schoolchildren and to establish a laboratory in the rooms of the Board for the examination of backward pupils. The system of sight-tests which was put in by the Board two years ago was without superintendence, and it was discontinued for the present year. The laboratory for the examination of children found to be backward will be under the supervision of Professor F. W. Smedley, Director of Scientific Pedagogy and Child-Study. As there has been no provision made for the specific treatment of children below normal, the laboratory is planned for the special examination of these with the idea of finding means of correction. The special examinations will include tests of eyesight and hearing.

Board of Education Sustained.—The right to exclude from the public schools any pupil who has been ill, until passed upon by the regular medical inspector of the Board of Education, was sustained in a decision handed down by Judge Ball in the Superior Court a few days ago. The opinion was given after the hearing of a petition for a writ of mandamus against the School Board to allow a pupil to return to her classes without first having passed a medical examination.

Mortality Statistics.—There were 640 deaths during the past week, the greatest number ever recorded during any week in the history of Chicago. This greatly increased mortality is due to influenza. Although only 4 deaths from this affection are recorded, it is reported as a fatal complication in the majority of the 159 deaths from pneumonia, the 72 from consumption, the 54 from heart disease, and the 154 of persons over sixty years of age. The medical inspectors and members of the disinfecting staff of the Department report great laxity in the preventive care of influenza patients. The infectious character of the disease does not seem to be generally recognized.

Smallpox.—The recent smallpox developments also, according to Health Commissioner Reynolds, demand attention. Last year there were 23 cases of the disease in Chicago, of which number 11 were imported; the remaining 12 were contracted from the imported cases. Thus far this year there have been 9 cases—6 imported and 3 developed among residents of the city without known exposure to the importations. The presumption is that the contagion is as widely spread here as it is known to be throughout the country generally, but that the disease is so mild as to escape detection in many instances.

Changes in Rush Medical College.—It is said that Dr. Arthur R. Cushny, of the University of Michigan, has been tendered the Department of Pharmacology and Materia Medica in this college. Judge Henry V. Freeman will lecture on Medical Jurisprudence. Dr. E. P. Bradley, of the Polytechnic Institute of Peoria, will be Assistant Professor in Physiology. It is intended to erect a new building upon the lot adjoining Rush College, and it is highly probable that the structure will be modeled after the one at Johns Hopkins University. It was expected that the building would be completed so that work could be begun in it this fall, but owing to unsettled conditions this has been deemed impossible. The principal use to which the new structure will be put will be that of higher clinical work and lectures.

The Facts Regarding Criminal Abortion.—Dr. Denslow Lewis estimates that 80 per cent. of all married women who become pregnant wish they were not. Old ladies recommend the use of different teas, hot douches, hot baths and violent exercise. Cathartics, emmenagogues, and ergot are advised, and, among the ignorant, arsenic, metallic mercury or other poison has been taken, usually with fatal result. These means often fail.

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Cases are cited where women fell from great heights, sustained fractures, were beaten to unconsciousness, and suffered even fatal traumatism without severing connection between mother and child. At other times very slight injury produces abortion. Alum water injections have caused death. One woman produced abortion upon herself thirty-five times with a knitting-needle. Death has occurred simply from the introduction within the uterus of a cannula. The intra-uterine injection of glycerin has proved fatal. An embolism has occurred, also mercurial poisoning, from a bichloride douche. The uterus is not always entered by the foreign body. Thomas's case is cited in which a physician's wife passed an umbrella rib through the vaginal vault, the abdominal cavity and diaphragm until it perforated the lung. Other cases are instanced where an elastic sound encircled the cervix for two and one-half years and where metastatic abscesses formed in brain and elsewhere. Lewis cites a case of his own in which a silver catheter had perforated the posterior uterine wall and was removed from under the liver by abdominal section. In this case the pregnancy was uninterrupted. Other cases show a glass rod retained in the broad ligament, a seatangle tent found posterior to the uterus, a needle 7 cm. long, observed in omentum during the performance of Cæsarean section. Sometimes no discomfort results, at other times a suppurative process causes its expulsion into adjoining viscera. A fatal injury of the internal iliac artery is recorded. Utero-intestinal fistula has occurred. Two cases are instanced where a knitting-needle was forced through the umbilicus into the uterus. The relation of repeated abortion to degenerative changes and diseased states of the nervous system is considered as well as the production of sterility by infection of the tubes.

The Pathology of Criminal Abortion.—Dr. Maximilian Herzog read a paper on this subject. He said that the pathology of criminal abortion has to establish, first, the causal nexus of premature expulsion of the ovum by the aid of internal medicinal or external mechanical means adopted for the accomplishment of the desired criminal attempt; second, to account for the illness or death of the mother during or after the abortion. By far the largest number of criminal abortions are brought about by internal medicinal agencies which enjoy the reputation of being reliable abortifacients. According to Lewin, certain medical preparations have the property to primarily or secondarily exert a pathological influence over the uterus and the ovum contained in it. We possess certain poisons which can influence the uterus in such a manner that phenomena similar to those in parturition are produced, and that the ovum becomes detached from the fruit-bearer. But all internal means which, if taken in sufficiently large doses, may bring about this cycle of changes are substances poisonous to mother and child alike. They have the property to bring about morbid disturbances of physiologic functions. The hemorrhages caused by internal abortifacients occur between the fetal membranes into the amniotic cavity or into the placenta; they lead to a loosening or separation of the ovum. Other pathologic processes noticed in connection with the internal use of abortifacients are hyperemias in distant organs of the mother, inflammatory processes in the gastro-intestinal tract, the pelvic organs, and in the ovum and its envelopes. Some abortifacients primarily and particularly act upon the gastro-intestinal tract and exert their influence secondarily only on the pelvic organs. From the studies which he has made on the normal and abnormal uterine placenta and the placenta in tubal pregnancy, he is inclined to believe that the first step in bringing about spontaneous abortion is very frequently a hemorrhage into the intervillous space, and hemorrhages into the spongy layer of the decidua serotina. These hemorrhages come from the uteroplacental sinuses, and their effect must be a loosening, eventually a separation of the ovum. The author outlined the general principles of the pathology of criminal abortion and characterized them as follows: (1) Premature expulsion of the ovum, if it occurs as the result of the internal administration of abortifacients, is an integral part of the general toxic symptoms, changes and processes due to those drugs or chemicals acting deleteriously upon both mother and child. (2) Premature expulsion of the ovum, if it occurs after detachment of the membranes, perforation of the amniotic cavity, etc., is brought about because after such manipulations which may or may not bring about the speedy death of the embryo, the ovum acts as a foreign body and stimulates the uterine muscularis to contractions, or because intervillous or interdecidual hemorrhages occur. (3) Septic infection in its broadest sense following criminal abortion is, *ceteris paribus*, not fundamentally different in its general and special pathology, its sequelæ and complications from other septic infections.

GENERAL.

The Medical Association of Missouri.—The forty-third annual meeting of this association will be held at Mexico, Mo., May 15th, 16th, and 17th. A symposium on gall-stones will be a feature of the meeting. Arrangements have been made for an exhibit of pathologic specimens.

In Memory of Dr. Love.—On March 31st the Love Memorial Association presented to the Free Library Association of Montclair, New Jersey, a bronze bust of the late Dr. John J. H. Love, made by J. Scott Hartley, the sculptor. Many persons witnessed the presentation and appropriate ceremonies were held.

Dr. Dewey Not Insane.—Dr. Richard Dewey writes that the report of his insanity was a mistake, or an intended joke, or, possibly, a piece of malicious mischief. We regret that this report should have appeared in our columns, although the circumstances were such as to give it cre-

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dence, and gladly announce that Dr. Dewey is in his usual good health.

Quarantine against Cuba.—On April 1st the United States Gulf and South Atlantic ports began their quarantine against Havana. The approach of that date warned visitors in Havana and the fear of quarantine started them for home; every stateroom and every available cot on all the steamers leaving Havana March 31st were occupied.

Lombroso on the Bicycle.—Professor Lombroso, who seems desirous of bringing the science of criminology into disrepute, counts on a dreadful increase in crime when the passion for the bicycle reaches Southern Italy. In an article on "Bicycling in Crime" in the *Nuova Antologia* he states: "Of all the mechanical inventions of our time, none has obtained such extraordinary importance as the cause or instrument of crime as has the bicycle. If the somewhat exaggerated opinion was formerly held, that the cause of every male crime should be sought in woman, as is expressed to-day by the too celebrated phrase, *'Cherchez la femme!'* with perhaps less exaggeration, one might say, 'Seek the bicycle!' The motive for a great part of the thefts and robberies committed by young members of good society, in Italy at least, is found in the desire to possess a bicycle."

Dishonest Doctor Convicted.—Dr. Adolph Zeil, of Berlin, was found guilty on April 2d of the charge of having made money by incapacitating young men for military service. His plan was to administer on the day before the examination such drugs as would accelerate the heart's action. The prospective recruit would be rejected on the ground that he was suffering from heart-disease. Zeil had "treated" 350 in this way. He was sentenced to one year's imprisonment and the various civilians and military surgeons who were implicated were each sentenced to a few months' imprisonment.

Care of New Jersey's Insane.—Arrangements were completed on March 29th at the Trenton State Hospital for the transfer of between sixty and seventy-five lunatics from the State institution to the city of Bridgeton. Under the law, the county to which any inmate of the State Hospital is chargeable must pay to the management of the State Hospital $3.00 per week for each such inmate. The State also contributes $2.00 per week per inmate toward the support of the State Hospital. Several years ago a law was enacted empowering any county to build a county asylum and care for its insane. To support the county institution the State is to pay the $2.00 per inmate that heretofore has gone to the State institution. It was upon this understanding that the county asylum at Bridgeton was built.

The United States Army Ration.—Captain E. L. Munson, Assistant Surgeon U. S. A., in his essay upon the ideal ration for an army in the tropics, which was awarded the Louis Seaman prize for the best essay upon that subject, outlines the ration as follows:

	Quantity per ration (ounce).
Fresh beef (quarters)	10.00
Fresh mutton	10.00
Pork	6.00
Bacon	6.00
Salt Beef	10.00
Dried fish (cod)	10.00
Fresh fish, average (whole)	14.00
Flour	18.00
Soft bread	20.00
Hard bread	18.00
Cornmeal	20.00
Beans	2.40
Peas	2.40
Rice	4.00
Hominy	4.00
Potatoes	16.00
Potatoes, 80 per cent. and onions 20 per cent.	16.00
Potatoes 70 per cent. and canned tomatoes 30 per cent.	16.00
Dried fruit (average)	3.00
Sugar	3.50
Molasses	1 gill
Cane syrup	1 gill

The Hospital Ship "Maine."—The Executive Committee of the American hospital ship "Maine" has received the following letter from the Lord Mayor of London, A. J. Newton: "I inclose you a check for £2000 from the Transvaal War Fund to be applied to the beneficent work the American hospital ship 'Maine' is doing for sick and wounded troops. The check represents some of the contributions Americans have made to the fund, and it therefore does not infringe on the graceful determination of your committee to accept only American money for the humanitarian purposes of the 'Maine.'" Sir William MacCormac, who recently returned from South Africa, says everything that could be desired for the comfort of the wounded, both from a surgical and nursing standpoint, is to be found on the "Maine." Practically there is nothing which "Tommy Atkins" asks for which he is unable to get.

Attack on Dr. Backus.—In the Senate at Albany on April 3d Senator Raines reopened the case of the removal of Dr. Truman J. Backus from the board of managers of the Long Island State Hospital. In the course of a vicious attack he charged that Dr. Backus, first, obstructed the making of reforms in the institution; second, that he placed in control of the institution unfit persons; third, that he charged large amounts of personal expenses to the State; fourth, that he let contracts to personal friends without opening bids; fifth, that he used the stores for personal use; sixth, that he sold property of his own to the State hospital of which he was a manager, this he said being a criminal proceeding.

In answer to Senator Raines' attack, Dr. Backus stated that there ought to be a thorough investigation made by the proper authorities of each of Senator Raines' charges and that he should welcome such an examination.

A Kentucky Physician Buncoed.—A physician of Trisler, Ky., on Saturday morning, on Broad-

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way, met two or three men, and one of them led him to believe that he had known him in Kentucky. The doctor went with them to a place near Park Row and the Bowery, and in a spirit of friendship cashed a check for $400 for the one who claimed to have known him in Kentucky. The check turned out to be worthless. The physician was in New York preparatory to taking a trip to Europe, but after the loss of his money he returned to his home in Kentucky.

Mrs. Eddy's Illness.—The New York *Evening Post* of April 3d states that Mrs. Mary Baker G. Eddy, leader and founder of the Christian Science Church, is very ill at her home in Concord, N. H., with a cancerous affection.

Obituary.—Dr. Charles J. Hall, a life-long resident of Glen Cove, and a widely known physician in that section of Long Island, died on March 29th.—Dr. William W. Rodman, one of the oldest practising physicians in Connecticut died in New Haven on March 30th, in his eighty-third year.—Dr. Joseph H. Vondy died in Jersey City on April 2d. He was born in New Brunswick, Canada, in 1829. He was graduated from the New York University Medical College and began practice in Jersey City in 1851. He was one of the founders of the City Hospital.—Dr. J. Sterling Bird, of Hyde Park, New York, a prominent Dutchess County physician, died on April 3d, in his sixty-fourth year. He began practice in Hyde Park in 1865. He was an influential member of the Dutchess County Medical Society.

The Plague.—The San Francisco Board of Health announced March 24th that several more cases of bubonic plague had been discovered in Chinatown. All Chinese leaving the city by boat or train are compelled to show certificates of a clean bill of health. In the meantime, the house-to-house inspection of Chinatown continues, and the systematic cleaning of all insanitary houses and yards is being prosecuted. The plague is steadily increasing in Calcutta and Bombay. It is rendered more fatal by the famine. The famine expenditure for 1899-1900 was over $10,000,000. It is estimated that the expenditure for 1900-1 will be over $15,000,000. A strenuous effort is being made to destroy the rats both at Hong Kong and in Japan. A premium is offered on dead rats in the latter country, and in the former place rat-traps are being widely distributed. Since the beginning of the outbreak of plague at Sydney, Australia, fifteen persons have been attacked, of whom six died, one recovered and eight are still suffering from the disease. Eleven fresh cases of bubonic plague were officially reported April 1. Two additional deaths have occurred.

Medical War News.—It is reported from Pretoria that when British prisoners arrive careful lists are made of name, rank and condition. The military prison-camp is called the Waterfall and is occupied by 2600 British soldiers. The hospital arrangements are described as excellent, and fountain water is daily sent in tanks from Pretoria. The officers who have been captured are confined in the State Model School, which is modern and well built, has many large and lofty rooms, and is surrounded by a broad veranda. On the other hand, the treatment of the colonials of Natal and Cape Colony is hard; they are confined in the ordinary jail and are treated like common criminals. The total list of casualties in the British army up to a recent date is estimated at 15,849, of whom 2041 have been killed and 9356 wounded; 930 have died from disease. Sir William MacCormac, in describing (*Lancet*, March 17) the scene at the field-hospital after the battle of Spion Kop, says:

"About seven o'clock, just on the approaching sudden darkness of the tropics, a barely distinguishable moving mass of men could be seen coming over a distant hillock. This was the leading stretcher of the convoy and it had reached us before the end of the train of stretchers and wagons came into view. Hot bovril and stimulants had already been prepared by the men of the Royal Army Medical Corps, great pots of the former resting in the kitchen. The hospital is surrounded by barbed wire fencing to prevent confusion and the entrance of unauthorized persons. There is an opening at one side at which Major Daly immediately stationed himself, accompanied by his staff sergeant. Each stretcher was lowered at this entrance, the nature of the wound was inquired into, and the patient, after identification, was conveyed by the men of the Royal Army Medical Corps to the vacant beds, a list of which was kept by the staff sergeant (each tent being numbered). Confusion was thereby greatly diminished and none of the native stretcher bearers were allowed to enter the enclosure; 43 stretchers and 12 wagon loads (100 cases) completed this convoy and most of the cases were serious. I was informed that there were still another 150 to arrive on the morrow. This terribly long line of brave fellows lying helpless, arriving one by one in the dusky light, coming over the horizon, accompanied by the moving shadows of the bearers, silently advancing in their bare feet, or singing a peculiar chant of their own as they wearily sped beneath the weight upon their shoulders, presented one of the most impressive and saddest sights imaginable, and every few moments the sad scene was lighted up by bright lightning flashes, making it still more pitiable. For 14 hours, with the exception of a short halt at midday, had this weary body of sufferers, sick with their wounds and sad at heart with their defeat, wended its way across the hot and dusty veldt. The day happened to be a terribly hot one. At night the lanterns of the hospital attendants flitted hither and thither among the tents. Wounds had to be rebandaged, splints readjusted, morphine injected, and in some cases operations to be performed at once. The orderlies moved about as rapidly as possible from tent to tent, the similarity of the tents in the darkness causing confusion in any one unfa-

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miliar with the exact location of the different patients."

American Surgical Association.—The following is the provisional program of the meeting of 1900, at Washington, D. C., May 1, 2, and 3, 1900:

1. President's Address, Perforating Ulcer of the Duodenum, R. F. Weir, New York.

2. Gastric Ulcer Non-perforating—Hemorrhage, Wm. L. Rodman, Philadelphia.

3. Perforating Ulcer of the Stomach, J. M. T. Finney, Baltimore.

4. Benign Obstruction of Pylorus, Frederick Kammerer, New York.

5. Malignant Disease of Stomach and Pylorus, Wm. J. Mayo, Rochester, Minn.

6. Gastric Dilatation—Gastroptosis, B. F. Curtis, New York.

Hourglass Contraction of the Stomach, F. S. Watson, Boston.

8. Diagnosis of Cancer of Stomach, John C. Hemmeter, Baltimore.

9. Traumatism of Stomach, including Foreign Bodies, Rudolph Matas, New Orleans.

The discussion of Surgery of the Stomach will be opened by W. W. Keen, Philadelphia (ten minutes), and M. A. Richardson, Boston (ten minutes).

10. Stricture of the Esophagus following Typhoid Fever. Gastrostomy, Frederic S. Dennis, New York.

11. A Series of Demonstrations upon the Cadaver, illustrative of the Mechanism of the Various Dislocations of the Hip (by request), Oscar H. Allis, Philadelphia.

12. The Methods of Closing Abdominal Incisions, M. H. Richardson, Boston.

Discussion opened by John B. Deaver, Philadelphia.

13. Strangulated Hernia through a Traumatic Rupture of the Diaphragm—Laparotomy—Recovery, E. W. Walker, Cincinnati.

Discussion opened by N. P. Dandridge, Cincinnati, and S. J. Mixter, Boston.

14. A Case of Subpubic Hernia of the Bladder through the Pelvic Floor—Operation, P. B. Harrington, Boston.

Syllabus: Varieties of Hernia of the Bladder.—Causes.—Hernia of the bladder through the pelvic floor rare.—Hernia in the case reported due to traction of an edematous fibroid originating in the subperitoneal tissues in front of the bladder.—Treatment.

Discussion opened by J. Collins Warren, Boston.

15. A Case of Acute Tuberculosis of the Mesenteric Glands of the Ileocecal Coil—Removal—Permanent Recovery, M. H. Richardson, Boston.

16. Successful Removal of Acutely Inflamed Tubercular Mesenteric Glands, J. W. Elliot, Boston.

Discussion of Nos. 15 and 16 by Robert Abbe, New York, and S. Chalmers Da Costa, Philadelphia.

17. Congenital Cystic Tumor of the Pelvis, De Forest Willard, Philadelphia.

18. Extirpation of a Very Large Aneurism of the Renal Artery, W. W. Keen, Philadelphia.

Discussion opened by Wm. J. Mayo, Rochester, Minn.

19. Carcinoma of the Rectum, John B. Deaver, Philadelphia.

Discussion opened by C. B. Nancrede, Ann Arbor, Mich.

20. Spontaneous Disappearance of Carcinoma of the Lip. Union following Pathological Fracture of the Femur due to Secondary Carcinoma, Leonard Freeman, Denver.

Discussion opened by P. S. Conner, Cincinnati.

Association of American Physicians.—The following is the preliminary program of the meeting at Washington, D. C., May 1, 2, and 3, 1900:

1. The President's Address, E. G. Janeway, New York.

2. Discussion. Endocarditis, and Its Relation to Other Diseases. Referee: Wm. Osler, Baltimore.

3. Report of Cases of Pernicious Anemia, with a Special Reference to the Blood Findings, Frank Billings, Chicago.

4. Some Conclusions arrived at after a Study of 104 Cases of Pernicious Anemia, Richard C. Cabot, Boston.

5. Clinical Notes on Cases of Pernicious Anemia, Frederick P. Henry, Philadelphia.

6. Case of Filaria, with Specimens of the Adult Parasite, W. T. Councilman, Boston.

7. Cases of Diarrhea Associated with the Presence of Strongylus Intestinalis in the Stools, W. S. Thayer, Baltimore.

8. Actinomycosis, J. H. Wright, Boston.

9. Proliferation and Phagocytosis, F. B. Mallory, Boston.

10. The Relative Infrequency of Acute Transmissible Diseases during the First Year of Childhood, with a Discussion of the Probable Reasons for the Same, A. C. Abbot, Philadelphia.

11. Recurrent Vomiting in Children, J. P. C. Griffith, Philadelphia.

12. Would It Not Be a Gain to Both Pathology and Practice if a Direct Interaction between the Morbific Agent (Noxa) and the Reparative Effort Were Recognized, and the Conception of an Intermediate, So-Called Inflammatory Process Abandoned? Andrew H. Smith, New York.

13. Completion of Paper. (By Abstract.) Clinical Types of Uric Acid Diathesis. Treatment, J. N. Danforth, Chicago.

14. Communication on the Relation of Uric Acid Secretion to Epileptic Attacks, James J. Putnam, with F. Pfaff, Boston.

15. An Experimental and Clinical Study of Acid Intoxications, C. A. Herter, New York.

16. Report of a Case of Acute Ascending Paralysis, Showing Hematoporphyrinuria, Chas. G. Stockton, Buffalo.

17. Notes on Diabetes. 1. On Casts in the Urine During Diabetic Coma. 2. On the Occa-

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sional Low Specific Gravity of Diabetic Saccharine Urine, James B. Herrick, Chicago.

18. The Attitude of the Physician and Surgeon to Appendicular Symptoms Complicating Typhoid Fever, H. A. Hare, Philadelphia.

19. Observation on Appendicitis, Ira Van Gieson, New York.

20. Subpectoral Abscess, J. H. Musser, Philadelphia.

21. Aneurism of the Aorta with Rupture into the Superior Vena Cava, Recognized During Life, Alfred Stengel, Philadelphia.

22. The Circular Fibers of the Heart (Mitral Sphincter) as a Factor in Functional Disturbances of the Heart with Mitral Insufficiency, Morton Prince, Boston.

23. Minor Forms of Cardiac Dilation, Beverly Robinson, New York.

24. Presentation of a Case of Addison's Disease under Treatment with Suprarenal Extract, W. W. Johnston, Washington.

25. Graves' Disease without Exophthalmic Goiter, W. H. Thomson, New York.

26. Some Observations on Human Temperature in Disease, Norman Bridge, Los Angeles.

27. Sanitarium Treatment of Pulmonary Tuberculosis, and Its Results, E. L. Trudeau, Saranac Lake.

28. The Elimination of Deleterious Substances from Antitoxic Sera, William H. Park, New York.

Papers will also be read by Drs. W. H. Welch, F. P. Kinnicutt, I. Adler, G. B. Ward, C. F. Withington, and J. S. Thacher, the titles of which will be announced in the final program.

CORRESPONDENCE.

HOSPITAL DAYS IN MANILA.

To the Editor of the MEDICAL NEWS:

DEAR SIR:—We were fortunate on entering Manila to be able to take possession of the Spanish hospital, the Spaniards having removed their sick and wounded into the walled city. Although filthy and dismantled they were easily made serviceable. The principal wards were arranged around a large court rich in tropical foliage and provided with a band-stand to indicate that hospital life had its lighter moments. The wards were capable of accommodating each from seventy to one hundred men. The space for the most part was unbroken, allowing fine ventilation, and each was surrounded by a high-pillared roof over the outlying pavement, which at all times kept the temperature tolerable. Air chambers beneath the wards assisted in keeping the floors properly wholesome, although germs of malaria were suspected beneath. The baths were soon reconstructed, but the absence of sewerage put all toilet arrangements on a temporary basis. The other offices, surgery, pharmacy, kitchen, stables, morgue, were put into temporary use, but the work of remodeling to get them more into line with our needs immediately began.

Manila had an electric light plant; this was immediately introduced into the hospital. Big kettles under which the fires were always roaring provided boiled water for drinking, but soon yielded to the distilling apparatus which not only supplied the hospital, but provided distilled water for the troops at the front. An ice-plant on the grounds in time succeeded that at Cavite, on which we had at first to depend.

The sick by no means waited for these improvements. The weeks of mud and rain in the trenches of the Spanish campaign were more deadly than the Spanish bullets. The troops fairly fell over one another with dysentery, rheumatism, and typhoid fever. An outbreak of smallpox soon followed, which obliged the setting up of a smallpox-camp conveniently isolated on one of the vacant spaces which are a feature of the topography of Manila. The volunteers at that time still regarded campaigning in Luzon as something of a lark, and to their incursions among the native fruits and native vino is to be attributed a certain amount of the sickness which now befell the army.

The hospital accommodation soon overflowed. The California Red Cross Hospital was started and a Convalescent Hospital, now known as the 2nd Reserve Hospital, was established in one of the Exposition buildings in Ermita, as the district is known. All these hospitals, including the 3rd Reserve Hospital occupying the Wyoming barracks, are in easy reach of one another between the Pasig and Manila Bay where the fresh sea breezes have not lost their force.

Typhoid fever seemed to respond to treatment more easily than dysentery. I think it is generally admitted by the doctors that chronic dysentery cannot be cured in this climate, and such men I know were detailed to be sent home when a choice of patients was necessary. A German nurse at one time seemed to effect some marvellous cures among men who had lingered for months in bed. But it was found that the men relapsed as soon as they were out from under his treatment.

Typhoid fever gave much better results. My own experience at that time was in a fever ward, and during four months we lost but one man, an interesting case of purpura hemorrhagica. He was a Washington soldier, in the beginning a smallpox suspect. These were not infrequent: I have known in three days three smallpox cases to be removed, after having spent several days in the ward. The typhoid patients received ice-water treatment. It was a standing rule in the ward when a patient's temperature registered 102° to give him a bath. It is my pleasure to testify to the faithfulness of the hospital corps men in this ward in this respect. There was plenty of dirt, noise, and skylarking, but the moment the unfortunate reached the danger line he was either laid on a stretcher, covered with a sheet, and doused with ice-water, or he was put in a

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crazy old bath-tub on little wooden wheels, and in his ice-bath rubbed down with blocks of ice until his temperature was lowered. This was done in primitive, vigorous fashion, frequently amid much joking, but the men recovered and so quickly that it was a pleasure to mark their progress from day to day. I was afterward in the Military Hospital in Calcutta, where enteric fever, as it is there called, is one of the scourges. "We depend on phenacetine," the doctor in charge said. "Ice is too expensive, and we have no ice-plant." It was pardonable to feel a little pride in our hospital ice-plant, turning out two hundred pounds an hour as half rations and prettily housed in a little vine-covered cottage.

We had two kitchens, one for the heavy diet and one for the light diet; the former alternately presided over by Chinese and Filipinos. The commissary occasionally broke down in one particular or another, but was generally abundant. Before the breaking out of hostilities, oysters, fish, caribou-milk and eggs were easily obtained from the natives. After February 4, 1899, it took a long time to obtain these articles of food for the sick. The effort to make condensed milk palatable and acceptable, so that the typhoid patients would take it, is among the great efforts of my life. Afterward we had evaporated cream in abundance. A dairy of Australian cows later helped us out. Two ships kept the troops provided with Australian beef and mutton. This we had at least four days in the week, and it spoiled the "heavy diets" for what they termed "red-horse," or alleged canned roast beef. Embalmed beef we were spared. The fresh meat was usually served as stews. I never was able to understand why the sick should not occasionally alternate with the stewards in getting roasts and chops. The lay mind naturally felt that nothing was too good for the soldiers if it was on hand. But let me say here the medical authorities granted all we desired when appealed to. The resistance came from the small gods who ruled over fires, pantries and stores, and one could not always be making complaints.

The events of February 4th and 5th made new demands on the hospital. The tension had been great for weeks, but the precipitation was at last a surprise. During Sunday, February 5th, the wounded were brought in on every conceivable conveyance, the ambulances performed but a tithe of the task. The procession of litters choked the passages; the wounded lay over the floor and corridor of the surgery, the sheltered pavements and the grass-plot. All that day the surgeons and their attendants stood at the operating-tables, and at midnight were still at work on the insurgents, whose wounds were much more terrible than those of our men, inasmuch as the Mauser is a polite missile compared with our Springfield, which tore the unfortunates to pieces. We had very few amputations and those were forlorn hopes. The surgeons feared the effect of the climate on the gunshot wounds. On the contrary I heard one of them say, "Flesh grows with the rapidity of all tropical growths." One of the first patients in the officers' ward, to which I was then attached, was Lieut. Hogan of the 1st Californias. He was shot through the body between the heart and lungs. He suffered comparatively little discomfort from his neat little drilled hole. Lieutenant-Colonel Wallace of the 1st Montanas was shot through the lungs, and was out in two weeks. The men who were so unfortunate as to be shot with Remington rifles were much more seriously injured. And occasionally a brass-tipped Remington gave a man a sharp struggle for his life. The penetrating power of the Mauser at long range was regarded as astonishing. Lieutenant Irwin of the Washingtons was stooping over an ammunition chest when a Mauser struck him in the back of the neck, came out, went in again and came out, making four holes. Another officer had six holes from one bullet. A third was shot through the forearm, the bullet then penetrating his leg was buried in the bone.

On the taking of Santa Tomas, a Kansas soldier was brought into the dressing station at Calumpit shot through the temples, the brains protruding two inches on each side. The surgeon wiped them off with a bit of cotton and dressed the wound. I took care of the man until the next day when he was sent to Manila. He remained unconscious for some time and Captain Straub, the doctor in charge of his ward, doubted his recovery, or if he recovered that he would again have the power of speech. Subsequently I saw him on the "Relief," looking well, cheerful, talking, but ignorant until I told him of where he was wounded and of any of the circumstances. A silver drainage-tube at that time was pushed almost through the wound, and every hope was felt of his ultimate recovery. These wounds I must add were all from Mauser rifles, for which we learned to have great respect.

One thing which contributed to the healthy condition of the wounds was the fact that each man carries a First Aid Package, and many were able to dress their own wounds, or had an ambulance corps man to do it for them on the field.

Mary Gay Humphreys.

Manila, December 15, 1899.

OUR LONDON LETTER.

[From Our Special Correspondent.]

LONDON, March 24, 1900.

NATIONAL ASSOCIATION FOR THE PREVENTION OF CONSUMPTION—MEDICAL LECTURES AS HYPNOTICS—CURIOUS MEDICAL ABBREVIATIONS AND INITIALS—OLIVE BRANCH FROM THE FRIENDLY SOCIETIES—WHISKEY AND MALARIA—ATTACKS UPON HOSPITAL MEDICAL SCHOOLS—THE QUEEN'S VISIT TO WOOLWICH HOSPITAL—TAXATION OF HOSPITALS—VICTORIA CROSSES DEMANDED FOR MEDICAL OFFICERS.

THE National Association for the Prevention of Consumption has held its first general meet-

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ing, with a large attendance, under the chairmanship of the Earl of Derby. Further announcements were made as to the coming International Congress in London next April (1900) which the Prince of Wales will open. In the report of the Council special stress was laid upon the necessity for vigorous measures to repress spitting in public places and inducing public companies to post cards urging all to refrain from this habit upon their premises, as has already been done by the great London & North-Western Railway Company. Dr. Ransom of Nottingham urged the importance of insisting upon the adequate ventilation of public buildings and offices, as well as houses, many of these being admirable incubators for bacilli.

Dr. Nathan Raw of Liverpool took up the isolation of pauper consumptives in workhouses and said that Liverpool has already adopted this measure and established sanatoria for these unfortunates out in the country. The mortality from the disease in the "Black North" is very high, the deaths in Liverpool alone reaching 2000 per annum.

Some comment was made upon the small representation of the clergy upon the Council. Sir William Broadbent explained that several prominent clergymen had been invited to become members of Council at the outset but had declined—a fact which scarcely redounds to the credit or progressiveness of their profession, as all other classes of men are keenly alive to the value of the movement and roused to the dangers of the disease.

There is an excellent story going the rounds in regard to the original establishment of one of the great courses of lectures in medicine at the Royal College of Physicians. It alleges that the founder of the course was a wealthy merchant-grocer who for years had suffered terribly from insomnia. Upon one occasion he had had no sleep for five days and was restlessly pacing the streets in a half-demented condition when he happened to pass the door of the College and see the announcement of an endowed lecture which was then being given. He wandered into the room, took his seat, and in fifteen minutes was sound asleep. So grateful was he that when he awoke he at once proceeded to establish and endow a similar course for the benefit of future sufferers.

There is a singular tendency in English "medicalese" to resort to abbreviations and initials of various sorts, most of which are comparatively unknown among us, in spite of our alleged tendency to clip and shorten everything. For instance a general practitioner is always referred to as a "G. P."; a house-physician or house-surgeon as an "H. P." or "H. S."; a case record of tabes dorsalis is headed with the mystic letters "T. D."; one of general paralysis of the insane, with "G. P. I.," and the same contractions are habitually used in conversation. A unique combination of initials as a diagnosis-endorsement is reported to be in vogue at University College Hospital. Whenever a case which is clearly serious enough for admission proves too complicated or difficult to warrant a precise diagnosis upon the hurried examination of the receiving-room, it is promptly initialed "G. O. K." and sent up to its appropriate ward for adequate investigation at leisure. The mystic characters signify simply "God only knows."

The principal topic of interest at the recent meeting of the Friendly Societies' Congress at Plymouth was the issue raised by the demand of their medical attendants that a wage-limit should be set to their membership. In view of the disgracefully low rates *per capita* allowed for medical attendance, the profession has been most justly demanding that no one should be eligible for membership in the Societies who is in receipt of a wage above a certain amount. To this the Congress was absolutely opposed, but expressed its recognition of the fact that the time had come for a readjustment of the remuneration of their medical officers and reappointed a committee of arbitration to meet a similar body from the General Medical Council to discuss the matter. This Conciliation Board was proposed by the Societies and arbitrators appointed a year ago, but so far nothing has come of it, on account of the failure of the Medical Council to appoint its representatives. While thoroughly endorsing the position of the profession in the matter, it really seems a pity that it should put itself apparently in the wrong by refusing to meet and discuss the question amicably, however little prospect there may appear of getting their just demands granted thereby.

The chronic obstructionist and medical "*advocatus diaboli*" is again abroad in the person, first, of the Secretary of the Antivivisection Society, who has discovered a new and simple preventive of malaria, *viz.*, the avoidance of whiskey, based upon the experience of *one* woman traveler in Africa, and, hence, protests against "experimenting upon living animals with a view to producing an antitoxin!" A combination of infantile credulity and cheerful idiocy hard to improve upon. Second, in the august individuality of the irrepressible Stephen Coleridge who, in the current number of the *Contemporary Review,* produces an appalling mass of statistics in support of the allegation that the wicked hospitals are perverting the funds subscribed by the charitable public to the support of their nefarious medical schools and inhuman laboratories; the only proof being that since certain of these schools have received additions to their general subscriptions of late years, and notably from the Prince of Wales' Fund, their allocations to their medical schools and laboratories have increased as much as two or three hundred pounds per annum in some instances! The explanation being perfectly obvious to any one but Mr. Coleridge that nearly a third of the diagnostic work of the hospital wards is now done in the clinical laboratories of their schools and the amounts allotted represent but a fraction of the actual expense, to say nothing of

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the therapeutic value of this most important branch of what we think even he would admit to be the legitimate work of a hospital. Unless diseases are to be treated by direct revelation, accurate diagnosis is certainly of some assistance.

A Federation of Workingmen's Clubs has, however, swallowed the accusations whole and inflicted a lengthy memorial upon the poor Prince of Wales, informing him of the gross abuses which are being perpetrated upon his Hospital Fund, to which they do not subscribe a penny, and begging for a redress of these *their* grievances! Patients are regarded by doctors, forsooth, "as so much material for experiment!"

The event of the week has been Her Majesty's visit to the wounded in Herbert Hospital, Woolwich. This was no mere formal state function for politic effect, although the swarming myriads who thronged the route taken by the royal carriage turned it into a great popular ovation. The Queen refused to have even the customary guard of hussars before her carriage and drove almost unattended through the crowded streets from the station to the hospital. Arrived at the hospital the wonderful old lady was placed in a chair and wheeled slowly through the wards, stopping to talk to the more serious and more interesting cases, to hear their stories, see the bullets they proudly displayed, and present each of them with a bunch of flowers.

The rejuvenating effect of the war upon Her Majesty has been simply astonishing. So strongly has her sympathy been awakened by the sufferings of her soldiers and their families, that, although she had almost completely given up public appearances for years past, an immunity to which her eighty years amply entitled her, she has made two visits, each involving a train-journey of several hours each way, to the great military hospitals within the past few weeks, to say nothing of receiving staffs of hospital ships, sending telegrams of condolence to the wounded at the front, and warmly supporting, both by word and contribution, all the hospitals equipped for the front. The heart of the nation has been warmly touched by this display of womanly sympathy and never was Her Majesty revered and beloved as to-day.

Merit has a good deal to do with promotion in this country even to purely official Court appointments, and every member of the profession will cordially endorse the nomination of Lord Lister as Sergeant-Surgeon in Ordinary to the Queen in place of Sir James Paget deceased, and scarcely less so that of Mr. Frederic Treves to the vacancy among the Surgeons Extraordinary caused by Lord Lister's promotion.

The strait-jacket of red-tape which paralyzes the activities of English officialdom was never better illustrated than by the attitude of the Government toward the appeal of the hospitals to be relieved from the payment of rates, *i.e.*, city taxes. The mere calling of attention to such a monstrous injustice ought to be enough, but Mr. Chaplin, in reply to the delegation which waited upon him, could see nothing but serious complications and legal difficulties about the proposal, although admitting the abstract justice of it. And when the matter was brought up in the House of Commons this week by Sir Cameron Gull, Mr. Balfour, the leader of the Government, while expressing sympathy with the demand, would not even promise to introduce a bill bearing upon the question on account of the difficulties surrounding it, and advised that it be referred to a committee—and thus buried comfortably for the session.

The Army Medical Corps came before the House last week in public debate, and nothing but golden opinions upon its conduct were heard upon all sides. The House and the public are both appreciative of its magnificent services and so are the commanding officers, in word at least, but in one respect these latter gentlemen lag sadly behind, and that is in formal recognition of such services. General dissatisfaction is expressed here that so far no medical officer has been recommended for the Victoria Cross, and the public is getting thoroughly roused to the unfair treatment in this respect accorded in the past, and the action of the generals will be sharply watched in future.

TRANSACTIONS OF FOREIGN SOCIETIES.

French.

TREATMENT OF ANGIOMATA BY INJECTIONS OF COAGULATING FLUIDS—SUCCESSFUL FORMATION OF A NEW NOSE—TREATMENT OF THE GRIP—OBESITY RELIEVED BY A DIET OF SKIMMED MILK—SHOULD THE PLACENTA BE LEFT AT AN OPERATION FOR EXTRA-UTERINE PREGNANCY?—EPIPLOITIS AS A COMPLICATION OF APPENDICITIS.

At the Academy of Medicine, February 27th, Le Dentu spoke of the treatment of erectile tumors, by injections of coagulating fluids. Several precautions should be taken. Some sort of a ring should be pressed down around the angioma to contract the circulation and prevent the escape of forming clots. The ring should be kept in place fifteen or twenty minutes. In this way the danger of embolism may be avoided. From 2 to 40 drops may be injected at one sitting, according to the size of the tumor. The fluid used by Anger for this purpose is made up of 5 parts perchloride of iron, 3 parts chloride of sodium and 12 parts of water. In rebellious cases, one-half a part of chloride of zinc may be substituted for the three parts of chloride of sodium. As the tumor diminishes in size the quantity of injected fluid may be decreased. In many cases a single injection will suffice to stop the growth. The effects of an injection are manifested slowly, so that it is better to wait some weeks before repeating the injection. This method of treatment is perhaps not as satisfactory as electrolysis, especially for angiomata of the face, but it is worth serious consideration, especially by doctors who

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have not electrical appliances at their command.

BERGER considered extirpation the best method of treatment for angiomata which are not too extensive. If so, ignipuncture or the galvano-cautery should be used, or, better still, electrolysis. The thermocautery is not a good instrument because the extent of its action cannot be known with certainty.

LUCAS-CHAMPIONNIÈRE, however, commended the thermocautery which in his hands, he said, had often produced satisfactory results.

BERGER presented a patient upon whom he had formed a new nose in the following manner: Two flaps, one from either cheek, their bases being in the upper lip at the angle of the nose, were turned over and sutured in the median line, with their cutaneous surfaces directed inward. A third flap, taken from the forehead, was swung around so as to cover the other flaps. Its cutaneous surface directed outward formed the skin of the nose. Between these two layers of flaps was placed a platinum support, resting on the crest of the nasal bones and on the superior maxillary bones. The parts healed primarily, and, as the platinum support was completely included in the tissues without apparent irritation, there was the best reason to hope that the restoration of the nose would be permanent.

HUCHARD advocated the administration to patients suffering from the first symptoms of grip of large doses of hydrobromate of quinine, 15 or 20 grains at a time. The doses of 7 or 8 grains which are usually employed are ineffectual. If there is considerable nervous depression, strychnine sulphate should be administered in doses of $^1/_{60}$ of a grain. A milk diet is of advantage as assuring free renal action.

HAYEM said that such large doses of quinine were capable of setting up a gastritis and doing the patient more harm than good. He did not advise a milk diet for the reason that the grip was almost always accompanied by asthenia, which was sure to be increased if the patient was deprived of his accustomed nourishment and put upon a milk diet.

DEBOVE, March 6th, presented a patient whose weight had been reduced in one year from 147 kilos to 93 kilos (a loss of more than one-third of his weight). At the time of beginning treatment the patient suffered from polyuria and albuminuria and was unable to leave his bed. Exercise was out of the question; Debove had little faith in the reduction of obesity by drugs, and so the patient was put upon an insufficient diet. For a month his daily food was 5 pints of milk. He lost 30 pound in weight. The next month he received only 4 pints of milk daily. He lost 14 pounds. During the next five months he received only 2 pints of milk daily and lost 40 pounds. He showed no further loss of weight even although he was kept upon 2 pints of milk a day. The milk diet was thereupon discontinued and the patient was given green peas and beans, green salads, and fruit as he wished it. In four months he had lost an additional 24 pounds, and at the time of the report he weighed about 185 pounds and had regained his health and strength. Such treatment to be successful had best be carried out in the routine life of a hospital.

At the meeting of March 31st, FERNET said that prophylaxis demanded the isolation as far as possible of those suffering from the grip. Antisepsis of the nose and mouth should also be carried out, as these are the portals of infection. In the absence of any specific remedy, the therapeutic indications are those of toxi-infectious diseases in general. They consist in the best possible alimentation of the patient and the speedy elimination of poisonous products, especially through the kidneys. A milk diet and hydrotherapy best meet these demands. Medication is of secondary importance. For example, the pulmonary congestion with tachycardia, due apparently to weakened action of the pneumogastric, is quickly relieved by the application of cold compresses which may be renewed every hour or every two hours if necessary.

At the Society of Surgery, February 21st, RICHELOT mentioned an instance of successful operation for extra-uterine pregnancy, the placenta being left *in situ* for subsequent absorption. Several other members of the Society commended this practice. HARTMANN alone spoke against it. He said that the placenta ought always to be removed, unless intestinal adhesions or other complications make its removal dangerous.

WALTHER, at the meeting of March 7th, said that in operating 83 times for appendicitis, he had 18 times found adhesions between the omentum and intestines, the upper part of the cecum or the ascending colon usually being involved. Attacks of epiploitis may occur in such cases, even after removal of the appendix. Such adhesions may also cause intestinal stricture or digestive disturbances. Hence, the necessity for the removal of the adherent portion of the omentum.

SOCIETY PROCEEDINGS.

THE NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, Held Thursday, March 15, 1900.

The President, Wm. H. Thomson, M.D., in the Chair.

The subject for the evening was a continuation of the discussion on cancer.

Cancer of the Breast.—This paper was read by Dr. Robert Abbe. It appears in the present issue of the MEDICAL NEWS. (See p. 521.)

In the discussion Dr. Torek said that three things must be determined as a preliminary to every radical operation for cancer of the breast. First, how much skin shall be removed? Second, to what extent the glands must be dissected out and, third, how much muscle must be removed? Since the publication of Halsted's very favorable results, in 1894, Dr. Torek has always removed both pectoral muscles in all cases of can-

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cer of the breast. He has never had occasion to regret it. Among his patients were a number of working-women in whom it might be thought that the function of these muscles would be very much weakened. As a matter of fact, however, their removal injures but slightly a woman's capacity for doing work and patients complain but little of the after-results. The removal of the fascia above the pectoral muscle is practically never sufficient. If the muscle is visibly affected its removal is surely indicated. It must be borne in mind that where there are no macroscopic appearances of the invasion of the muscle by the cancerous process the microscope may reveal the presence of an abundance of cancer-cells.

Removal of Glands.—It is agreed by all operators that the glands into which the cancerous tissue drains must be removed. It used to be considered sufficient to remove the axillary glands only. Some surgeons were satisfied to open up the axilla and remove the superficial packet of glands beneath the skin. They seemed to think that this was all that was necessary. There was no question in their minds of having to remove the glands at the apex of the axilla between the scaleni muscles. There is no doubt that very often, when it is entirely unsuspected and when there are no clinical signs of the fact the glands behind the pectoral muscle are also invaded. These must be removed.

It has become more and more evident that for the sake of avoiding recurrence, the skin over the cancer must be sacrificed. The skin is the foremost organ with one exception in which recurrences of cancer take place. Dr. Torek in his experience has had most cancer recurrences in the pleura, next after this in the skin.

Prognosis of Mammary Cancer.—Dr. Manley said that cancer of the breast is the most frequent malignant growth that comes for operation. Despite the optimistic opinion which has been developing of late years the condition is practically incurable in considerably more than the majority of the cases. Scarcely more than a decade ago Dr. Sands here in New York was so discouraged by his experience in the surgical treatment of mammary cancer that he declined to operate. He seemed to think that the patient was exposed to needless risk without any reasonable hope of benefit to be derived therefrom, certainly without prolongation of life.

There are three things the patients wish to be assured of when they come to be operated on for cancer: First, whether life will be endangered by the operation; secondly, whether it will impair the usefulness of any member, and, thirdly, whether it will be curative. At the present time the mortality has been so much reduced that patients may be at once reassured on the score of danger from the operation itself, although it must be borne in mind that a certain mortality attaches to the operation and patients should not be given too absolute assurance as to its lack of danger. As to impairment of the usefulness of the arm, the modern complete operation undoubtedly does leave the arm much weaker than before, besides, when the glands of the axilla are completely removed, sometimes elephantiasis results. Painful conditions of the arm with loss of power and trophic changes sometimes come as the result of interference with the nerves during the dissection of the axilla. It is doubtful if the present optimistic mood with regard to what is called the complete operation is entirely justified. It must be remembered that after simple removal of the gland in the old days patients frequently lived for three years and sometimes for much longer, even up to nine or ten years. Now, after complete removal of a not very large mammary carcinoma, with all its connecting lymphatics as far as they can be reached, recurrence is not out of the question.

Where local recurrence did not take place Dr. Manley has seen it come in the larynx or in some other of the internal organs. On the other hand, where no attempt is made to remove the lymphatics, recurrence may not take place in these. Dr. Manley has recently seen a case of mammary carcinoma treated by caustics. Recurrence took place not in the lymph glands, but in the other breast.

Delayed Recurrence.—Dr. William H. Thomson said that the citation of Dr. Sands' name recalled a patient whom he had seen eight years ago and who ten years before had been operated on by Dr. Sands for mammary cancer. The operation consisted in simple removal of the mammary gland. Recurrence came in the axillary region ten years after the original operation. The limit of three years, then, for cured cases would seem to have certain exceptions in slow growing cancers.

Cancer of the Uterus.—Dr. Henry C. Coe said that during recent years German surgeons have been very much interested in cancer of the uterus and as a consequence a number of unsettled questions in the matter are under discussion. The important thing with regard to uterine cancer is early diagnosis. As Dührssen says, we must educate not only the practitioner, but the laity, to recognize the early signs of cancer of the uterus so that they may come soon enough for operation. As it is now, less than 30 per cent. of the patients who present themselves in German clinics suffering from cancer of the uterus are operable. In this country it is estimated that not much more than 2 per cent. of the cases are operable when they come to the clinics. Of course, the number of hopeful cases is much larger in private practice. As the result of patients coming earlier for operation the German statistics are much better than the American and English statistics in this matter. At Edinburgh out of some 250 cases of uterine cancer operated on there were only 15 radical cures. Leopold had 17 radical cures out of 76 operations. This difference is not due to the fact that cancer in Edinburgh is different from cancer in Germany, although one Edinburgh surgeon suggested this possibility, but it is due to the fact that the diagnosis is made

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earlier, the patients come sooner for operation, and there is a better operative technic.

Symptoms of Uterine Cancer.—It is not necessary to have the classical symptoms of pain, tumor, and foul discharge in order to be able to make the diagnosis of uterine cancer. When these symptoms are present the case is very probably beyond the reach of operative procedures. The important symptom is irregular bleeding from the uterus. The general practitioner, as well as patients themselves, must be given to understand that the approach of the menopause does not justify the existence of irregular bleeding. Where such hemorrhage exists it is always suspicious, especially if the patient is between forty and fifty. If there are no signs of cancer to be found on bimanual palpation a wedge-shaped piece should be cut from the cervix, or the interior of the uterus curetted and the specimens obtained submitted to microscopic examination for the positive decision of the question as to whether cancer exists or not. The existence of irregular bleeding is sufficient of itself to justify operation. There are two things that may lead to an error of diagnosis in this matter. A small fibroid may exist or senile endometritis may cause the irregular hemorrhage. For the fibroid operation would be indicated; if endometritis exists no harm will be done by the operation.

Contraindications to Operation.—The important contraindication to operation is the invasion of other tissues by the cancerous process. In order to decide whether this invasion has taken place or not, the patient should be examined under an anesthetic. Enlarged glands cannot be palpated with any assurance, and they are frequently found after operation in positions where it might have been expected that they could not escape the examining finger. It is important to differentiate between true neoplastic adhesions and inflammatory adhesions. In a case seen recently a patient said that she had been told eight years ago that her cancer of the uterus had gone beyond that organ into the peri-uterine tissue and was hopeless. Nothwithstanding the bad prognosis the woman is still alive, although only a palliative curettement was done at the time. The fixation and infiltration in her case were evidently due to inflammation and not to neoplastic invasion. In general the prediction of the length of life that a cancer patient may have without operation is extremely uncertain. Fifteen years ago Reeves Jackson was so much discouraged with his poor success in operations for cancer of the uterus that he declared that patients lived longer and were almost as comfortable without operation. This poor outlook after operation is no longer justified, although radical successes are still rare enough. Dührssen's statistics are the most favorable and he chronicles less than 10 per cent. of radical cures. This is, however, a decided advance over the former state of affairs, when it was doubtful if any cases were really helped.

Choice of Operation.—As to whether the vaginal or the abdominal route should be taken in operating is a subject that divides surgical opinion a great deal. The vaginal route is growing in favor. Cancer of the corpus uteri will nearly always have to be removed by laparotomy. In very stout or in very weak patients it may be necessary to try the vaginal route even for these cases. For cancer of the cervix a serious question exists as to whether the cervix should merely be amputated or the whole uterus extirpated. Byrne of Brooklyn has done very good work in amputation with the cautery. Moore Madden has also used this plan with success. Byrne's statistics certainly demonstrate that igni-amputation may give radical cure. As a rule, however, better ultimate results are obtained by total extirpation of the uterus. Of late years an attempt has been made to do for cancer of the uterus what has been accomplished by Halsted's operation for cancer of the breast. The idea was to remove all the pelvic tissue that seemed liable to be infected because of the lymph drainage from the uterus. Needless to say this radical procedure adds very seriously to the mortality of the operation. It can only be undertaken in strong, healthy patients. The primary mortality in these cases is at least 20 per cent. The hope of radical cure given by the radical operation, however, seems to justify the added risk. Doubtless, too, the danger of the operation and its mortality and the length of time necessary to perform it will be gradually lowered by improvement in technic and by the acquirement of the special skill necessary for this class of operations.

Palliative Treatment.—This should not be entirely neglected. Despite the spread of knowledge with regard to cancer, a large number of cases still come to the surgeon only when operative measures are absolutely hopeless. For these the use of the cautery or the sharp spoon are clearly indicated. The symptoms are very much relieved and the progressive course of the disease is hindered for a time. The foul discharge, which so often makes life miserable for the patient and so unpleasant for her friends, is completely done away with. It is to be hoped that the education of the general practitioner and of the laity to the realization that irregular hemorrhage is the initial symptom of cancer will bring cases for operation at an earlier period than is now, unfortunately, the case and so make palliative procedures unnecessary.

Prognosis and Early Diagnosis.—In the discussion Dr. Boldt said that the prognosis of any case of cancer depends on its early diagnosis. At times a small nodule in the cervix may have a very bad prognosis because it fails to give atypical bleeding and may spread to the parametrium or even to the ureters before giving any recognizable symptoms of cancer. Only too often when cancer develops in the portio vaginalis of the cervix, it is treated, that is, the symptoms it gives rise to are treated, by douches. In this way the carcinoma is easily allowed to go too far before coming to the surgeon. Irregular bleeding must

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at any period of a woman's life be a cause of suspicion as regards cancer. And this is especially true at the time when the menopause approaches. Between thirty and thirty-five cancer of the uterus is by no means rare. When it occurs in these younger women it has an especially unfavorable prognosis. In the succulent tissues the carcinoma grows rapidly and is carried widely by the lymph stream. To secure sufficient material for the microscopic diagnosis of cancer of the uterus it is not enough to make a few scrapes with the curette. Every vestige of the uterine mucosa should be removed. Care should particularly be taken to carry the curettement well up into the cornua of the uterus, otherwise the specimens are liable to be a source of error and false security, rather than any assured aid to the diagnosis. Erosion and ulcer of the cervix should be looked for very carefully. True ulcer is very rare. Where erosions exist portions of tissue should be removed for microscopic examination. Such specimen should be submitted only to a competent pathologist, that is, one who has had considerable experience in examining tissues for malignancy. A false report of non-malignancy will almost surely involve a delay of four to six months and then the cancerous process will be advanced too far for operation. As a rule, forcible dilatation of the cervix is uncalled for and it is amply sufficient simply to introduce the curette. Curettement should not be attempted without an anesthetic, however, as it is impossible to do it effectively. The principle contra-indication to operation is the existence of extension of the cancerous process into the peri-uterine tissues. The existence of such peri-uterine involvement can only be decided by a rectovaginal examination. After some experience one is able to differentiate inflammatory from cancerous infiltration by the greater resiliency that is noted in inflammatory adhesions. Inflammatory material also has a more even feeling. Malignant infiltration gives a boardlike sensation that is rough and at times almost nodular in character.

Igni-Operation.—The use of the cautery for the extirpation of cancer is undoubtedly an excellent procedure. Mackenrodt's statistics of igni-extirpation of the uterus have often been criticised. When the cases, however, which Mackenrodt deliberately took for operation are considered, his results do not seem so bad. He took some of the worst cases in his practice and yet many of them lived for three years. Dr. John Byrne of Brooklyn has undoubtedly done good work in the development of the technic of the use of the cautery in operations for cancer of the uterus, and this method of treatment has undoubtedly an encouraging future.

Prognosis According to Age.—Dr. W. Evelyn Porter said that age is an important element in the prognosis. The most satisfactory results of operation are obtained in patients past fifty years. In them, even where some malignant infiltration of surrounding tissue seems to exist, a radical cure is sometimes effected by operation. Between the ages of thirty and forty radical operation is most difficult. In the comparatively young tissues the cancer spreads rapidly, very soon involving parts distant from the uterus. Besides the blood supply is at high tide and many more bleeding vessels must be cared for than later in life. The prognosis of these cases, then, is much worse than that of older patients. Vaginal extirpation seems preferable in all cases to amputation of the cervix. For cancer of the corpus uteri the operation by the abdominal route seems more suitable. But even for this, operations through the vagina are being done more and more frequently.

Difficulties of Diagnosis.—Dr. Philander Harris of Paterson, N. J., said that the greatest hindrance to early and assured diagnosis is the disturbance of menstruation brought on by the menopause. In physician's minds, as well as among the laity, there is an impression that all sorts of disturbance of menstruation may be caused by the menopause. Change of life seems the satisfactory explanation for almost any anomalous hemorrhage that may occur between 35 and 55 years of age. It is not an unusual thing to have women state after having menstruated from ten to fourteen days that they did not think this a serious symptom, because they were under the impression that the change of life had something to do with it. Dr. Harris saw a farmer's wife recently who had had a show of blood daily for nearly a year. She did not think it worth while to consult a doctor about it, because she thought it due to the change of life. When such erroneous impressions are removed it will be possible to make early diagnosis of cancer of the uterus. The microscopic diagnosis of cancer is after all only an aid in these cases. It must not be considered as the ultimate criterion. All the circumstances of the case must be taken into account in making the diagnosis. The outlook in operations for cancer of the uterus is certainly much better than it was twenty years ago. The abdominal route with thorough dissection of all suspected tissues is especially encouraging. It adds to the mortality but the ultimate results would seem to justify it. Dr. W. Gill Wylie said that cancer attacks only degenerate tissue, hence the greater liability of the breasts and uterus to suffer from it and especially at the time of involution. It occurs in other organs that are especially liable to injuries or irritation during their normal function. The best prophylaxis of cancer consists in the prevention of all possible sources of irritation in organs that are especially liable. Lacerations of the cervix should be repaired, subinvolution should not be allowed to persist, in general, all chronic irritative conditions should be terminated as soon as possible. Cancer is apt to be very rapid in the young, that is in people in the fourth decade of life, so that suspicious symptoms should be traced to their origin without delay. The almost pathognomonic symptom of uterine cancer after forty is the stoppage of regular men-

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struation for a time and then its recurrence. The longer the intermission between the cessation of menstruation and its renewal, the more certain is the recurrence a symptom of a cancer. This is very well known generally, yet the lesson is neglected often for weeks and months right here in New York. The poor results in hospital practice after operations for cancer of the uterus are due to the fact that patients come only when hopeless. With the improvement in technic there is every reason to think that the statistics will be better. The mortality of the abdominal operation should not exceed 2 per cent. Cancer of the body of the uterus is the least dangerous type and the most satisfactory for operation. Cancer in this location occurs more frequently than is usually thought.

Suppuration Beneficial.—There is a practical fact of very great importance, the reason for which is unfortunately unknown, but which has been observed by too many surgeons to be merely a false impression. It is that suppuration after operation for cancer appears not infrequently to be of advantage. In a certain number of cases where the operation promised surely to be a failure, because all of the cancer was not removed, suppuration supervened after operation and destroyed tissue that had been left at the time of operation. Palliative treatment, with the curette and applications of chloride of zinc, after cutting away all possible tissue with the scissors, often gives most satisfactory results as far as regards the limitation of symptoms. This form of palliative treatment seems to be better than the use of the cautery.

In closing the discussion, Dr. Coe said that the microscope in skilled hands undoubtedly is of the greatest service as a final test in doubtful cases. Dr. Cullen of Baltimore, in his paper read not long ago before the New York County Medical Society, said that in all the cases examined microscopically during the last five years at Johns Hopkins Hospital not a single mistake had been made, although surgeons and pathologists were intent on testing this method of diagnosis to the last degree.

German authorities are of the opinion that the abdominal route is preferable for operations for cancer of the uterus. For small tumors certainly the vaginal route seems better. The important thing to be remembered, with regard to mortality after all operations for cancer and their ultimate success, is that if patients come for operation in the initial stage the mortality will surely be very low and radical cures much more frequent..

THE NEW YORK COUNTY MEDICAL ASSOCIATION.

Stated Meeting, Held Monday, March 19, 1900.

The President, Frederick Holme Wiggin, M.D., in the Chair.

Dr. Wiggin reported a successful case of excision of the cecum with end-to-end anastomosis for a non-malignant growth which, as a result of long continued and recurrent attacks of appendicitis, had completely occluded the bowel.

Symposium on Serum-Therapy.—Dr. E. K. Dunham reviewed the theory of immunity and of serum-therapy as it has been developed during the last few years. Ehrlich's theory is the most complete and also the most satisfactory explanation of the phenomena that are observed during the development of immunity and during the therapeutic application of various sera. Ehrlich assumes that there exist within the cell very large molecules, such as the recent development of organic chemistry has made us familiar with. These may be modified by substitution of simple elements, or radicals, or groups of elements, or by cleavage. This process of change gives a large field for alterations within the cell without actual destruction of its life. The complex substances produced by bacteria act as poisons by causing changes in the chemical constituents of the cell which embarrass its physiologic action without necessarily killing it or causing such functional disturbance as would give rise to noticeable symptoms. These toxins interfere with intracellular metabolism. The effort to overcome this interference gives rise to functional hypertrophy. A certain amount of reserve matter is assumed to exist in all organisms and in all of their cells. The development of this reserve matter up to a certain stage enables the cell to protect itself for the time being and when a large amount of the reserve matter is called into play the self-protective quality may become enduring. This is immunity. An animal may be naturally immune not only to the poisons of bacteria, but also to other poisons. It is well known, for instance, that atropine does not affect the rabbit.

Theory of Antitoxin.—When cells fail to be acted on by substances that ordinarily affect cellular function, there is presumed to be an absence in the cell's intimate chemical constitution of certain side-chains of molecules that exist in conjunction with the fundamental substances that make up the essence of the cell. Where these side-chains of molecules do not exist, the cell, not being affected by a poison, none of its reserve matter is called into play and so no antitoxin is formed. For antitoxin is a solution in the serum of certain neutralizing substances that are formed in the cell as the consequence of irritation calling its reserve force into play. An excessive dose of toxin paralyzes all cellular activity and so there is no production of antitoxic substances. Irritative doses, however, influence the side-chains of molecules in the cell, but more of them are called into being from the reserve matter and so antitoxin is produced. Thus it is that usually animals which are most highly susceptible to a poison produce the best antitoxin for that poison when it is administered only in irritative doses for a period of time. Not all the cells of the body are equally affected by toxic substances. Thus it is that special cells are particularly involved in the production of certain antitoxins. Tetanus

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acts particularly on the central nervous system. It is only in the brain and cord that the special side-chains of molecules exist which are acted upon by the tetanous toxin. These cells partly neutralize the toxin of the disease but are, as a rule, finally overwhelmed by it. That these cells do neutralize some of the tetanus toxin is proved by the fact that even outside the body they are able to produce this action of neutralization.

The side-chains that are affected by the diphtheria toxins exist especially in the lymphoid material of the body, *i. e.*, in the cells of the bone-marrow and of the lymph-glands. And it is to these cells particularly that we owe the production of the diphtheria antitoxins. It must be remembered that other toxins besides those due to bacteria can produce antitoxin. Ehrlich's experiments in this matter with abrin and ricin are familiar to all. Natural immunity to infection does not include immunity to the toxin of a disease. There are observations which demonstrate that the body cells may be able to protect themselves from infectious germs, and yet the organism be affected by the toxins of these micro-organisms if in some way they should gain an entrance into the body. It is possible to produce antitoxins which may protect from the toxins of a disease and yet not insure immunity from infection. Certain observations seem to show that a diphtheria antitoxin produced by the injection of living bacilli into an animal is both anti-infectious and antitoxic; that is, it protects against the disease itself and against the toxins of the disease. Diphtheria antitoxin produced by the injection of dead diphtheria bacilli protects only against the toxins of the disease, but gives no immunity from infection.

All the theories in this matter of immunity and of the action and production of antitoxins are as yet merely suggestive and are by no means possessed of any definite scientific certitude. Clinical experience is needed to substantiate certain parts of the theories now advanced and give them an assured basis of scientific truth.

Preparation of Tuberculins.—Dr. E. A. De Schweinitz, Chief of the Biochemic Division, Bureau of Animal Industry, United States Department of Agriculture, Washington, D. C., explained the preparation and use of the old and new tuberculin. The old tuberculin was obtained from beef bouillon to which glycerin had been added, the tubercle bacillus being allowed to grow upon it for a number of weeks. The bouillon culture was filtered of all germs by means of a Pasteur filter and then concentrated, being heated to a temperature sufficiently high and for a sufficient length of time during the concentration process to assure the death of all living germs.

The new tuberculin is an extract only of a virulent culture from the surface of the medium without any of the culture medium itself mingled with it. The basis of it consists, therefore, of the cells of the tubercle bacilli. An extract of these cells is made with water and glycerin. The bacilli are ground up previous to the making of the extract, so that the substances within them may be extracted more completely. Certain chemical compound within the cell-walls of the bacteria cannot be extracted unless the cells are broken up.

Therapeutic Value.—Sattler found that guinea-pigs and chickens inoculated with tuberculosis lived much longer when tuberculin was administered to them than when it was not. Prof. Brieger, Koch's assistant in the department for infectious diseases at the University of Berlin, said at the recent Congress for Tuberculosis held in Berlin that the old tuberculin was not without its usefulness, but that doctors were not patient enough in its employment. It is curative for most cases of lupus and is a most valuable aid for diagnosis in animal and human tuberculosis. In 1154 cases of tuberculosis in Berlin during the last five years, tuberculin has been the decisive test. These cases occurred among 2500 patients in whom there were no distinct physical signs.

Specific Toxin of Tuberculosis.—The product of the bacillus tuberculosis which causes the necrotic changes in tissues affected by tubercle bacilli is soluble in water and has been the subject of considerable study during recent years. This substance must probably be considered as the specific toxin of the tubercle bacillus. It is this necrotizing substance which produces the characteristic pneumonia of pulmonary tuberculosis. It is by this pneumonic process that the bacillus seems to protect itself from the action of the phagocytes in the human system. Despite all that has been learned in recent years about tuberculous toxins, Koch's new tuberculin does not seem to produce any better results clinically than did the old tuberculin. The medical profession throughout the world generally is a unit with regard to this conclusion.

Serum-Therapy of Tuberculosis.—The theory that the serum from inoculated animals possesses in tuberculosis, as in so many other infectious diseases, an antitoxic property has been a favorite one. It is certain that such antitoxic properties are developed to any appreciable extent only several years after the original inoculation. Some results in the use of tuberculous serum, that is antitoxin, have been very encouraging. The whole subject is, however, still in an experimental stage. Judgment must be suspended until the results of investigation now under way have been definitely brought out.

Antipneumococcus Serum.—Dr. Alexander Lambert said that as the pneumococcus causes 90 per cent of all pneumonia it is very desirable that we should obtain if possible a serum to counteract its effects. Even if the pneumococcus serum did not have such markedly antitoxic properties as the antitoxins of diphtheria and of tetanus, it would still be of distinct aid if it favored the action of the leucocytes. All the pneumococcus serum employed so far has had its action within the blood-vessels. This serves to counteract any septicemia that may be present because of the absorption of toxic substances from the pneu-

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monic areas in the lung. The sera, however, do not cause degeneration of the exudate within the lung alveoli and so do not bring the pneumonia to a termination sooner than it would normally come. The pneumococcus produces a toxin which has not so far been isolated. Animals die from the absorption of this toxin by a species of septicemia. In animals, then, the pneumococcus serum gives good results. With regard to the pneumococcus, it must not be forgotten that just as there are several varieties of streptococcus, so there are more than one variety of the diplococcus pneumonia. An Italian experimenter has noted that a serum produced by him was active against four varieties of pneumococcus, but not against a fifth.

The serum from dogs, rabbits, and human beings recovering from pneumonia have all been used with unsatisfactory results. Pane's donkey-serum has given the most encouraging statistics in the treatment of pneumonia. In alcoholic patients and where pneumonia occurred epidemically, it has been given with very satisfactory results. Fanoni reports six severe cases in which the serum was given intravenously, as is recommended in these cases, and but one death occurred. There was no crisis, distinct improvement occurred very shortly after the administration of the serum, and the termination was by mild and undisturbed lysis. The only death reported was in a case complicated by pericarditis. The only objections urged against the serum are made on theoretic grounds, and by those who have not used the remedy in practise at all.

Dr. Lambert has used an antipneumococcus serum prepared from the horse in twelve cases. Nine of the patients treated with it recovered. The administration of the serum did not prevent the development of an empyema in one of the cases. In an alcoholic patient, suffering from severe double pneumonia, it seemed to have an excellent effect. In two other alcoholic patients it seemed to do absolutely no good. On the whole this form of serum does not seem to be of any very distinct benefit in the treatment of pneumonia.

(To be Continued.)

REVIEWS.

Proceedings of the American Medico-Psychological Association of the Fifty-fifth Annual Meeting. Held in New York, May 23-26, 1899.

THE activity of this body is well attested by the number, range and high scientific value of the papers here collected. The annual address on some "Problems of the Alienist," by Dr. Frederick Peterson, is worthy of a wide reading. E. Cowles here presents an able paper on the progress of clinical psychiatry. He shows very clearly the drift in modern psychiatric teaching. Imagination and its relations to mental disease is well handled from the psychological standpoint by R. H. Chase. Other papers, by E. C. Runge, W. A. White, and S. B. Lyon, and many others, are of special interest.

The Principles of Treatment and Their Application to the Practice of Medicine. By L. MITCHELL BRUCE, M.D., F.R.C.P., Lecturer on the Practice of Medicine in Charing-Cross Hospital, London; Examiner in Medicine, Royal College of Physicians, London. Revised to conform with the U.S. Pharmacopœia by E. Q. THORNTON, M.D., Jefferson Medical College, Philadelphia. In one octavo volume of 625 pages. Lea Brothers & Co., Philadelphia and New York.

IT was a happy idea of Bruce to write a book to guide the young practitioner; and so well has the plan of the work been carried out that the older physicians may also derive much benefit from its perusal. The book consists of two parts, the first being devoted to the principles of treatment, the second to the application of these principles to various diseases. As well stated by the author: "It starts by assuming no therapeutical laws, but proceeds to find them in the familiar facts of etiology, pathological anatomy and the clinical character of disease. They are carefully examined for the elementary principles of treatment and in the course of the enquiry the student is taught how he may himself employ his observations as guides to practice. Having mastered the most simple therapeutical principles, the reader is led up to higher generalizations, which relate to the nature of disease and its proper relation to treatment."

Thus clinical indications are established which not alone include the routine methods of treatment, but also the actual factors which the physician must encounter and consider if he would intelligently treat not a case, as is so unfortunately the rule with so many young and old practitioners, but a human being who is sick from a definite disease. All the resources of medicine such as hygiene, dietetics, hydrotherapy, climatology, etc., are discussed as well as drugs. Even the personal factor is discussed in a separate chapter. The pictures of diseases as they actually occur, the various indications which may arise, the many things which ought to be attended to and the equally important things which ought to be avoided are all most graphically described. The actual directions as to the exact plan of treatment constitute very sound medicine; the prescriptions, while numerous, are all chosen with distinct reference to definite indications. It may be added that they are adapted to both the British and United States Pharmacopœias. The index is complete and practical.

In short, the book fills a long felt want, and fills it admirably. The publishers' work leaves nothing to be desired, since the typography and paper are excellent and the size of the book is not bulky.

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THE MEDICAL NEWS.

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ORIGINAL ARTICLES.

TWO CASES OF RECURRENT TUBAL PREGNANCY.[1]

BY PHILANDER A. HARRIS, M.D.,
OF PATERSON, NEW JERSEY.

Case I.—MRS. W. J. B.; first child born in 1888; second in 1892; third in April, 1895; no miscarriages. On September 16, 1896, after an interval of six weeks since her last menstruation, she was attacked at one o'clock in the afternoon with very severe pains in the abdomen. There was constant pain extending from the pelvis to the lumbar region, with frequent colic. These symptoms subsided, after a continuance of three hours, and were followed by a great deal of soreness over the low part of the abdomen. In four hours after the beginning of the pains she was so much better that she sat up in a chair, and in less than nine hours from the beginning of the pains, she returned in a carriage to her home, a distance of over a mile. The patient described the colicky pains of this attack by comparing them with the gripings of an attack of diarrhea, from which she had previously suffered. While the colicky pains continued she had almost constant nausea, but not any vomiting. On Thursday, September 17th, she still had slight abdominal soreness, but not any colicky pains, was up most of the day, and did some housework. She continued to feel pretty well until six o'clock Friday, September 18th, when the colicky pains returned with great severity, continuing about one hour, with constant pain between the colics. This left her with much abdominal soreness. She had to be helped to bed, after which she rested very well all night. On Saturday, September 19th, some soreness continued in the abdomen, and she also had a constant suggestion of nausea. She rested well on Saturday night, dressed herself on Sunday morning, September 20th; but remained in a chair or on a couch all day. She retired at eight o'clock in the evening and was awakened at ten o'clock by terrible pains; when these pains had continued a short time, her sister arrived and exclaimed to her husband, in the presence of the patient, that she was a "dying woman." The patient has only an indefinite recollection of much that transpired from this hour, until after she recovered from the abdominal section seventeen hours later.

Her physician, Dr. R. M. Curts, first saw the patient at eleven o'clock P. M., September 20th, after the beginning of the most severe colics. The abdomen was slightly bloated; she also vomited frequently from this time until after operation. Dr. Curts found her pulse to be 120; temperature 99° F. He visited her again at four o'clock in the morning, September 21st; her pulse was then 130; her temperature 97° F.; she was very pale. I saw the case, eight hours later, at noon, with Dr. Curts. Pulse then more rapid than in the morning, temperature still 97° F. She was removed to the Paterson General Hospital for abdominal section. Upon reaching the hospital she was taken directly to the operating-room; her pulse was then 160 to 170, and could scarcely be counted at the wrist. Upon opening the abdominal cavity we found it to contain pounds of clots and pints of blood; no fetus was discovered; all bleeding points were tied, the cavity cleansed and the incision closed. Normal saline solution per rectum, strychnine subcutaneously, hot-water bottles, and other restorative treatment used in such cases, were employed in this case. The patient made an uninterrupted recovery, leaving the hospital in twenty-five days after operation in a condition of health.

I feel greatly chagrined to find that I have no written record of the side on which this gestation occurred. The patient did not refer her pains to either side particularly. My inability to definitely determine this matter robs this case of much of its interest. It has been my custom, as those who are associated with me know, to keep full notes of cases and also of operations; this forms a most unfortunate exception to my regular habit.

Second Attack.—Excepting two spells, in the spring of 1897 and 1898, she menstruated regularly until and including March 24th, 1899. She did not menstruate during the following April and saw no menstrual blood until about May 5th, when there was a slight show. While working in her garden at eleven o'clock in the morning that day, she was taken with colicky pains and general soreness in the abdomen. She went into the house and rested for an hour or two, after which the cramps ceased, leaving only a very slight soreness of the abdomen. In the afternoon she resumed her work in the garden and had no recurrence of pains until Saturday, May 20th. She then had slight colicky pains and some abdominal soreness. She remained in bed until the following Tuesday, May 23rd, when she walked two or three miles. From that time she felt quite well until Tuesday, May 30th, when the colicky pains returned, although they were by no means severe. She then again had a slight appearance of blood at the vagina, the first since May 5th. Dr. James M. Curts, brother of Dr. Curts before-named, saw her on

[1] Reported to the Section on Obstetrics and Gynecology, New York Academy of Medicine, Febuary 20, 1900.

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that date. She remained in bed, off and on, until July. From May 30th until July she saw blood at the vagina almost daily, with many clots, which were preceded by pains. On Wednesday, June 21st, she was curetted by her physician, Dr. R. M. Curts, without relief from the metrorrhagia. Between June 21st and July 2d, the patient discovered a tumor rising out of the pelvis, somewhat to her left side, which, she says, became rapidly larger. Notwithstanding the rapid development of this tumor, she neither experienced pains nor abdominal soreness; in fact, she had felt much better after the curettement of June 21st, and was out of bed more. I first saw the patient with Dr. R. M. Curts on July 2d. Regarding the case as a recurrence of tubal pregnancy, an abdominal section was proposed, and done on the day following.

Upon opening the abdomen some blood was found in the abdominal cavity, and a thin-walled hematoma, larger than a child's head, with a broad base rising over the right horn of the uterus. Bleeding points were tied, the abdominal cavity cleansed of blood, and the operation completed. The patient made a good recovery, leaving the hospital seventeen days after operation, in a condition of health. She remains well.

Case II.—MRS. M. A. F., aged thirty-three years; married thirteen years; one child eleven years old; no miscarriages. She menstruated every four weeks, excepting on one occasion five or six years ago, when she went ten days over time. Her menstruation usually lasted five days, was free from clots, normal in amount, and, at

FIG. 1.

CASE I. Hematoma showing how the tumor which originated from right side gave greatest prominence on left side.

times, was accompanied with slight pains on the first or second day.

On March 6, 1899, when twelve days overdue, she flowed about the usual amount, normal in character, and for six days, but with much pain in her right iliac region. The sitting position caused pains in the pelvis, and it hurt her for weeks following to sit down; and, indeed, until after the operation. On March 16th, she began to flow again, and this continued four or five days with colicky pains; these colicky pains were always referable to the right iliac region. She was first seen by Dr. Ventura Fuentes, of New York City, about March 21st. She then had a great deal of soreness over the lower abdomen, with pain on her right side. She was out of bed a part of every day and did a little housework. The colicky pains were so frequent and severe that morphine was often taken for their relief. Blood appeared from the vagina again,

FIG. 2.

CASE II.—Fetus of first tubal pregnancy.

March 26th, and continued until March 30th, when clots appeared for the first time. From March 30th until April 28th, when she entered the hospital, she flowed almost daily and passed many clots, the colicky pains continuing. At no time was she free from bloody discharge for two days in succession. The worst pains experienced occurred on Sunday, April 23d, when they were most agonizing, and continued for a number of hours. From that time onward the pains were frequent in the daytime and often awakened her in the night. They were all referable to the right side. For two or three days before entering the hospital, she fainted on several occasions, wanted to be fanned a great deal, and had nausea for one entire night. Admitted to the hospital April 28th. Pulse 88; temperature 99° F.

I attempted to operate on this patient by the vaginal route, but was unable to control the hemorrhage in that way, and at once resorted to suprapubic section. On making the preliminary vaginal section the small fetus (Fig. 2) appeared, accompanied by a great many clots, and blood which drained from the abdominal cavity. After making the suprapubic section the bleeding points were tied with catgut, the abdominal cavity made clean, and a gauze drain placed through the cul-de-sac of Douglas into the vagina. The patient made a good recovery, and was discharged from the hospital, cured, twenty-two days after operation.

She menstruated regularly for six months until the recurrence of ectopic gestation.

Second Attack.—On December 24, 1899, after a period of thirty-eight days since her last regular menstruation, the patient had a flow of blood greater in quantity than a normal menstruation which persisted six days. It was fluid in char-

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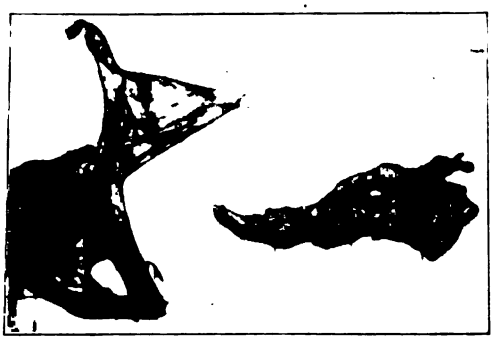
acter, except on January 30th, when clots appeared. On January 1, 1900, she was taken with severe pains, first in the left lumbar region, which very shortly ran through the left iliac region, and became central in the hypogastrium. These pains began at 7:30 in the evening and were uninterrupted and most severe until 11:30 that night. During that seizure she vomited twice. At midnight the pain subsided and she slept lightly for the remainder of the night. After January 1st she did not have any severe pains, but she had slight pains in her left iliac region many times a day and a great deal of pain low in the sacral region until after operation. She also had soreness across the abdomen on January 2d, 3d, and 4th. The flow of blood appeared again from the vagina on January 4th and lasted a day and a half. On January 5th, when I first saw her, she complained of a great deal of pain in her left shoulder and in other parts of her body. She then had a little pain in her left side, and some tenderness over the lower part of the abdomen; pulse 88; temperature 99° F. She was removed to the Paterson General Hospital January 6th. She then had a brownish dis-

Fig. 3.



Case III.—Left tube from which abortion occurred in second tubal pregnancy.

charge from the vagina and slight pain in the left side of her pelvis. She was etherized on January 7th and was found to have a uterus slightly larger than normal. The left tube very much enlarged, especially at its fimbria. Nothing abnormal discoverable to the right of uterus. Pulse 90; temperature 99° F. From this time until January 15th the patient was fairly well and had only slight pains in the left pelvis. She was rather better every way, with pulse about 90, and temperature about normal. I then reëxamined her without the aid of an anesthetic. I found to the right side of her uterus a rounded tumor less than three inches in diameter, and on her left side a tube, probably not larger, or in any way different from that described in my examination of January 7th. I then performed an abdominal section. A large amount of blood was found in the peritoneal cavity, with clots adhering to a ruptured left tube. The left tube was removed; also the rounded tumor, which proved to be a very thin-walled exudation cyst of the right broad ligament, containing colorless serum (see Fig. 3). This small tumor I regarded as secondary to the condition on the left of the uterus. The patient made a rapid and uninterrupted recovery, leaving the hospital in a condition of health twenty days after operation.

Cases of ectopic gestation recurring in the same individual are no doubt rare. I regret that I have not found time in this relation to search literature for reports of cases. Aside from a case, which was a recurrence in the right tube, reported by Dr. Henry C. Coe to the American Gynecological Society in 1893, I am able to refer only to the three following cases which I quote from Dr. Kelly's Operative Gynecology: One case by Dr. Taylor, of Birmingham, England; one case reported to the Berlin Obstetrical and Gynecological Society by Olshausen in 1889; and one case by Herman.

In Taylor's case the two gestations occurred in the right tube. At the first no operation was done and the diagnosis was based on the formation of a hematoma at the time of rupture and the finding of an old scar in the tube which was removed at the operation at the time of recurrence. Olshausen exhibited a living child of right tubal origin and in a little more than one year he operated on the woman for a ruptured left tubal pregnancy of five weeks' duration. Herman operated for a ruptured tubal pregnancy and there was later diagnosticated an unruptured pregnancy on the opposite side.

My first case probably had a recurrence of ectopic pregnancy and in the stump of the right tube which I believe to have been the side on which the first pregnancy occurred. My second case had her first pregnancy in the right tube and her recurrence in the left tube.

RECENT ADVANCES IN THE TREATMENT OF INSOMNIA.

By REYNOLD WEBB WILCOX, M.A., M.D., LL.D.,
of New York;
Professor of Medicine and Therapeutics in the Post-Graduate Medical School and Hospital; Physician to St. Mark's Hospital.

At the Montreal meeting of the British Medical Association in 1897 I presented a paper on the treatment of insomnia, afterward published in the *British Medical Journal*. In that presentaton of the subject I took the occasion to rehearse the results of work done by the most conspicuous investigators as providing the data from which we might arrive at the construction of a working hypothesis of sleep phenomena, whether natural or induced. This preliminary work I then supplemented by brief sketches of certain of the hypnotic agents then new or most commonly accepted, and endeavored to indicate how each bore upon the sleep hypothesis which was offered.

In the present paper, which I design to make much more brief, I have set before myself the purpose of supplementing my former paper and continuing its deductions to the present date.

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Sleep is as essential as food, therefore we must have at our command means of inducing it which are safe, reliable and pleasant in their action. This statement is conditioned by our knowledge or our estimate of what insomnia really is.

Insomnia is a symptom, the result and not the cause of cerebral affections. Our rational treatment is, therefore, to seek out the cause of this symptom and to apply our efforts to the relief of that cause, not vaguely to attack the mere symptom iself. In its relation to pathological conditions we know insomnia to appear as a symptom of various habits, such as alcohol, coffee, and tobacco; in this guise relief from the symptom comes most reasonably from the eradication of the causative habit, and hypnotics are needed but rarely and then only as a temporary measure. In the line of cases where insomnia is symptomatic of pain, the relief of the pain is the proper course, and where that is impracticable it is not a hypnotic to which we should have a recourse but a narcotic. Similar examples will so readily suggest themselves that I need not recite them. In the treatment of any case in which insomnia is the patent symptom we should first seek out and remove the cause; then exhaust the possibilities of physical therapeutics; and then, and not until then, do we arrive at a place which drugs, and drugs alone, can occupy. Here we encounter two lines of treatment which are to be avoided; the first is routine prescribing, which is utterly indefensible; the second is the reckless administration of drugs. Remember that insensibility is not sleep, and it is sleep which we aim to secure, not insensibility. Our logical theory of the treatment is to consider, not how much of any hypnotic agent can be administered with safety, but how little will induce a sleep approximating in depth, duration, and peace the normal slumber. We are to bear in mind that sleep is a phenomenon which we are not to compel but to persuade.

Before we can proceed to the examination of any hypnotic it is necessary to consider how hypnotics act, and that consideration must rest on the theory of sleep-phenomena.

When we reflect that sleep occupies in the main one-third of all human existence, it is surprising that it has been so little studied. Were we to view in a broad way this globe of the earth at this moment, or at any moment of time, we should find the line between the sleeping and the waking of all life as sharply drawn and as clearly defined as the boundary of the light and the darkness on the face of the moon.

In such study as has been given to the subject three main theories have been advanced; two have been for the most part set aside as not accounting for the whole phenomenon, yet each has contributed to the third. The detailed review of these theories has been presented in my preceding paper, and I will not now refer to more than a summary of the earlier ones.

The first of these theories is that sleep is due to cerebral anemia, for which several methods of causation have been proposed. How entirely this theory is inadequate in explanation of sleep will appear when the anemia theory is pushed to its logical conclusion, namely, the production of an undoubted anemia by considerable loss of blood; here hemorrhage should, in accordance with this theory, be followed by sleep, yet we all know of the wakefulness which is the real result.

The second is the chemical theory of sleep. If we follow the investigators who have pursued this hypothesis we find them examining the action of oxygen and of lactic acid, others the effect due to katabolism, and, finally, we reach their conclusion that the volume and the contents of the brain-cells diminish as a result of fatigue. This theory is a forward step, for it brings us nearer a working hypothesis of the action of hypnotics.

Out of these theories we have come to the present theory of the neurons, which, far better than its predecessors, explains many of the physiological phenomena of sleep. From its importance to our inquiry I shall cite the briefest presentation of this theory, that of Dercum. "The cortical cells in the motor area have processes extending toward the surface—dendrites—and a protoplasmic process extending downward through the white matter of the brain, the internal capsule, the crus, the pons, the medulla, and into the spinal cord, where it terminates in a brush-like extremity, the end-tuft. Here it has a certain relation with the motor cells in the anterior horn of the cord, probably one of contact, although that is not definitely known. If the nerve-cells retract, this contact is broken; if the abnormal constriction of the process is relieved for the time being, contact once more takes place." Evidently, I may add, if the neurons are functionally active the dendritic processes must be in contact, for without this consciousness is impossible. When the nerve-cells are exhausted by physiological fatigue, or artificially by drug-administration, there is every reason to believe that their volume shrinks, and it is, therefore, more and more difficult for them to remain in contact. When relaxation comes the processes retract and unconsciousness, *i. e.*, sleep, supervenes.

We have now to consider what drugs will safely and reliably produce this dendritic retraction, and which are tolerable to the patient.

Leech has shown that the alcohol radicles, of which ethyl and methyl are typical, depress the functions of the higher cerebral centers, and that chlorine more than the alcohol radicles is depressant of the lower centers. These facts, then, give us the root of our theoretical hypnotic. To reach both the higher and the lower centers, it must associate with one of these alcohol radicles a sufficiency of chlorine. From this somewhat restricted class we must in practical therapeutics exclude such agents as depress the circulatory system or derange the digestive tract.

Permit me to sum up tersely the requirements in a hypnotic which shall approximate as closely as possible the theoretical agent. It must com-

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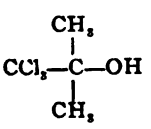
bine one of the alcohol radicles for the action in breaking contact of the dendritic processes with chlorine to affect simultaneously the downward protoplasmic processes; it must be free from depressing action on the heart and blood-vessels, it must not derange the assimilative system; it must be safe; it must be reliable, and it must be palatable.

In my Montreal paper, to which this is a supplement, I discussed a short list of the newer hypnotics which seemed to meet a majority of these requirements. To that list I wish to add the only new hypnotic which has attracted marked attention, chloretone, which meets so completely each one of these requirements as to present itself as a very close approximation to the theoretical hypnotic of which we have been in search. Curiously enough, it closely fulfils the prophecy which I then made as to the chemical composition of the ideal hypnotic.

It will simplify the examination of this product, for which we are indebted to Houghton and Aldrich, if we say at the outset that the coal-tar derivatives are found to be depressant of the circulatory system; that the opium extractives are, whether we find them to be narcotics or hypnotics, damaging to the functions of the digestive tract. These two groups are, therefore, for these reasons to be excluded from the search for an approximation toward our theoretical hypnotic.

Chloretone is a derivative of chloroform and acetone, and is also known as acetonchloroform; it is chemicaly described as a trichlor-tertiary-butyl-alcohol. When caustic potash is gradually added to equal weights of chloroform and acetone a reaction ensues which results in this new substance, which is isolated by steam distillation for the removal of whatever of the two principal substances may be found to exist. Having been cooled, after the removal of water by melting, it appears in white acicular crystals with a strong odor of camphor. In chloroform, acetone, strong alcohol, ether, benzin, and glacial acetic acid, it is freely soluble; in cold water it is soluble to the extent of one per cent., which corresponds in therapeutic value to a four-per-cent. cocaine solution. It is a hypnotic, but that does not limit its applicability. It is an analgesic of value, and very successful as a local anesthetic. For the purposes of this paper I will restrict myself to its hypnotic uses.

How close is its approximation to the theoretical hypnotic will appear distinctly in its formula, as follows:—



It will be observed on inspection of this formula that we have a double supply of the methyl alcohol radicle (CH_3) and a sufficient potency of chlorine (CCl_3). This is at once in conformity with the active constitution of that which I have shown is the theoretical hypnotic.

That being the case I will now pass to the other requisites which I have before mentioned. And here we must call upon the clinical history of the use of this agent.

First, its safety. The customary dose is from 6 to 18 grains, yet we have record of a case in which the patient through misadventure took as many as thirty-six tablets of 3 grains each, in all 108 grains of the substance, and, while cast into a profound sleep for three days, he did not present, either during this sleep or after restoration to consciousness, any symptom to cause the least alarm.

Second, its reliability. In all the use which has been made of this substance, it has never yet failed of prompt action for the purpose for which it was administered.

Third, ease of taking. Chloretone is given in the form of rapidly disintegrating tablets, which are, of course, practically devoid of taste. In crystals it is given either in capsules, which are absolutely tasteless, or even in the uncovered powder, in which the only taste is a not unpleasant flavor of camphor, which is found quite volatile and evanescent.

Combining these statements of constitution and clinical observation, it is shown that in every particular chloretone is our closest approximation to that theoretical hypnotic to which we have been led through a study of the working hypothesis of the sleep-phenomena.

Now, a word in conclusion of this brief paper, a word to indicate after what manner chloretone acts.

The laboratory experiments show us that chloretone, as chloretone, passes unmodified from the digestive tract into the blood, where it may be isolated. The blood conveys the the chloretone to the different organs, and there seems in laboratory experiment sufficient warrant for the belief that it has a selective action on the central nervous system. ' Here, then, or in some other region of the body, that point not having yet been fully determined, the chloretone is burned down and in the burning down produces its hypnotic effect. That it is really decomposed within the body appears from the fact that, volatile as it is, we do not find it in the expired air; nor has it been positively recognized in the urine.

Now, assuming that chloretone has a selective affinity for the central nervous system, and this assumption seems a very safe one; and still further assuming (and this seems equally safe) that it is there decomposed, we have the theory of its great hypnotic effect. The methyl radicles set free in the burning down are known to retract the dendritic filaments, the chlorine similarly derived to retract the protoplasmic processes. The dendritic filaments under the influence of chloretone lose touch among themselves, the protoplasmic processes are out of contact with the motor cells of the anterior horn of

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the spinal cord by the retraction of their end-tufts. The condition which normal fatigue produces has been produced through our safe hypnotic, and sleep follows. The drug has not in itself produced insensibility or even unconsciousness, it has only been used to bring about that cell-retraction which nature demands, and the cell-retraction has produced the refreshment of sleep without distinction as to whether the conditioning circumstance is due to the operation of fatigue or drug.

Two points in the paper to which reference has been made, the regarding of insomnia as a symptom and the making of an ideal hypnotic, have already been the subject of much attention and study by others. The third, the danger from the use of hypnotics, is equally important. Some years ago the profession was not awake to the danger of sulphonal and trional. To-day my suggestions may be now accepted as opinions for the guidance of the physician. That serious and even fatal results may come unexpectedly is shown by the instances in the use of other hypnotics reported by Bampton, Vogel, Schultze, Geill, Pettit, Friedlaender, and others, confirming the importance of the warning which was given at that time.

In brief, then, the advances in the treatment of insomnia have been in the recognition that insomnia is a symptom, in realizing that certain commonly-employed hypnotics may be not only dangerous but even yield fatal results, and, finally, the production of a hypnotic whose chemical constitution rests upon the basis which was suggested in my Montreal paper.

749 Madison Avenue.

PURULENT MENINGITIS: REPORT OF SIX CASES.[1]

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IN the MEDICAL NEWS of May 20, 1899, there appeared an article by the writer, reporting the analysis of the post-mortem records of eighty cases of meningitis. Since that date there have been eleven instances in which autopsy has disclosed the existence of purulent meningitis. Five of these cases were of the epidemic variety; one complicating erysipelas; one purulent otitis media; one following uterine infection; one due to the colon bacillus; one tubercular, and one following traumatism. The following is a report of six of these cases:

Case I.—A middle-aged male was admitted to the hospital in a state of maniacal delirium, resembling that of acute alcoholism. Temperature 101° F., pulse weak and rapid. Died sixteen hours later.

At necropsy the dura mater was found to be normal. The pia mater enveloping both brain and spinal cord was everywhere infiltrated with a purulent exudate of a thick, creamy consistency, lending to these organs a greenish-yellow color. The ventricles were distended with a slightly turbid fluid. Other viscera presented nothing of special interest.

Bacteriology: Two tubes containing bouillon and two of blood serum were inoculated from the meningeal exudate of the brain and cord, and developed pure growth of the diplococcus intracellularis. Two blood serum cultures, where a large amount of the exudate was carried by the inoculating needle into the tube, gave no evidence of growth after forty-eight hours at a temperature of 37° C. Cover-slips smeared with this exudate were found to contain many diplococci, for the most part situated in the polynuclear leucocytes; staining readily by aniline gentian violet, but not by Gram's method.

Case II.—Male, age thirty-eight, was admitted to the hospital with a history of a fall two weeks previously, at which time he received severe contusion of both ankles. He was apparently doing well up to the day of his admission when he had a severe convulsion. On entering the hospital he was unconscious, pulse 120, respirations 30, temperature 99° F., this soon rose to 101° F.; head retracted; eyes turned to the right, suffused and pupils contracted. Over abdomen and legs a petechial eruption was seen. Kernig's sign was not present. Knee-jerks normal. Death occurred five hours later.

Necropsy disclosed nothing of special interest, except purulent meningitis of the brain and spinal cord. Dura mater was normal. Beneath the pia mater was seen a purulent exudate most marked along the course of the vessel and along the fissure of Sylvius. The ventricles contained a normal amount of fluid which was slightly turbid. Cover-slip preparations from pus of meninges showed diplococci, not specially located in the pus-cells. This coccus stained by Gram's method. Staphylococci were also present. The spinal cord presented what appeared to be the result of a meningeal hemorrhage at the upper dorsal region, where a small amount of purulent exudate was seen.

Bacteriology: Cultures made from pus of both brain and spinal cord were found to contain two organisms, the pneumococcus and the staphylococcus pyogenus albus.

Case III.—Female, age forty, was admitted to the hospital in a state of collapse and died a few hours later.

Necropsy: Body of a well-nourished colored woman. At apex of left lung were seen two recent abscesses, the size of a pea. Otherwise the organs of the thoracic cavity were normal. Mesenteric veins were enlarged and had a hard, shot-like feel. Uterine and ovarian veins presented similar conditions and on section were found to be plugged with firmly clotted blood. The splenic and gastric veins were also affected.

[1] Contribution from the Philadelphia Hospital Laboratory, May 20, 1899.

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The uterus was enlarged and its endometrium congested and covered by a thick, yellowish pus. Os admitted two fingers readily. Meninges normal over cortex. Beneath the pia mater covering the pons and optic chiasm was seen a seropurulent exudate. The pituary body was surrounded by thick, yellow pus. The vessels entering the orbit were likewise enveloped in purulen exudate.

Bacteriology: Cover-slips smeared with pus from the abscess of the lung, meninges, orbit, and pituitary body showed streptococci; while those prepared from the veins of the abdominal cavity showed streptococci and bacilli. Cultures made from the above sources were found to develop only streptococci, except those made from the abdominal cavity, which contained streptococci and the colon bacillus. Cultures from the uterine cavity showed streptococci and a large motile bacillus (not determined).

Case IV.—An aged woman was admitted to the hospital in an unconscious state; head retracted; tenderness over calf muscles; knee-jerks absent; plantar reflex normal; pupils contracted but reacting to light. Herpes labialis was marked, and a harsh systolic murmur was heard at the apex. Urine contained albumin and granular casts. Temperature ranged from 101° F. to 106° F., the point reached just before death. Pulse 120, weak and compressible. Blood examination showed red cells to be 5,000,000 per cmm., white cells 54,000. Kernig's sign was present a few hours before death, which occurred four days after entering hospital.

Necropsy: Liver presented some fatty change; heart fatty and there was marked sclerosis of mitral leaflets; kidneys showed interstitial changes. Meningeal vessels were prominent and along their course were seen small areas of purulent exudate; between which the meninges were edematous. The cerebellum and pons were covered with purulent exudate, which was reflected over the parietal region on the right. The ventricles were distended with slightly turbid fluid. The pia of the spinal cord was infiltrated at the posterior surface in the dorsal region.

Bacteriology: Cover-slips prepared from meningeal exudate contained diplococci and bacilli. The bacilli and many of the diplococci were decolorized by Gram's iodine solution, while other diplococci were slightly, if at all, affected. Cultures made from meningeal pus gave evidences of a mixed infection. Further study, however, isolated the diplococcus intracellularis, pneumococcus, and the colon bacillus.

Case V.—Female, age twenty-nine, an epileptic, had been in the insane department for five years, where she had been treated for anemia in addition to her mental condition. June 19, 1899, she developed erysipelas of the left foot and ankle, which in a few days spread to the thigh and hip. The usual clinical features of the disease were observed, and two weeks later, when apparently doing well, she died.

Necropsy disclosed what had apparently been a diffuse abscess of ankle. Spleen was enlarged, dark, and firm. Meninges were congested over cortex, while at the base they appeared normal. The ventricles were filled with a yellowish fluid, the choroid plexus were coiled tightly into solid masses, and were covered with pus. Ependyma of the lateral ventricle was smooth, while that of the fourth ventricle was covered with yellow pus. On section the hemispheres presented no gross lesions.

Bacteriology: Cover-slips smeared with pus from ventricles showed streptococci, as did also cultures made on blood serum and bouillon; no cultures were made from the abscess of the ankle.

Case VI.—Female, past middle life, was admitted to the hospital suffering from marked mental depression, answering questions by yes or no, speech drawling. Temperature 99° F., irregular in type, 102° F. being the highest point reached. The friends gave a history of severe headache and pain in the back of the neck for the past week. The head was retracted so firmly as to make it impossible to force the chin forward on the chest. The skin presented a bluish mottling over the shoulders, arms, and right leg. Pupils contracted but reacting to light; heart beats 120 per minute; lungs negative; arms rigid; knee-jerks absent; plantar reflex present. Two days later patient was seen to be in a state of pronounced catalepsy, especially marked in the right arm. Urine contained albumin and many granular casts. Her condition grew gradually worse and she died in coma on the seventh day after entering the hospital.

Necropsy: Liver small and sclerotic; spleen slightly enlarged and soft; kidneys presented some acute inflammatory change. Dura mater was adherent to valvarium. Everywhere the pia mater was edematous, its vessels prominent, and over the convexity was seen a slightly turbid gelatinous material. Reflected over the central portion of the cerebellar hemispheres, as well as over the pons and temporal lobes, there was a thick, cream-like, purulent exudate. Ventricles contained a turbid fluid. Ependyma was smooth, puncta vasculosa well marked. The frontal sinus contained a small thrombosus.

Bacteriology: Cover-slip preparations from meningeal pus contained bacilli which stained readily with aniline-gentian violet, but not by Gram's method; they were not situated in the pus-cells. Cultures, six in all, were made on Löffler's blood serum and glycerin-agar. Two from frontal sinus and three from meningeal pus remained sterile after forty-eight hours at a temperature of 37° C. One serum culture made from fissure of Sylvius presented a profuse growth of the colon bacillus.

The delirium in Case I resembled that of alcoholism, and in one other instance did it assume this form.[1] The fact that two of the cultures presented no growth was probably due to too large an amount of toxins being carried by the inoculating needle into the culture tube. This is

[1] Medical Record, Sept. 2, 1899.

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probably why we so often hear that the meningeal exudate may contain many diplococci and yet cultures from this source give negative results, and that the meningococci are often dead or of low vitality. This is not true alone of the diplococcus intracellularis, but of many forms of bacteria, where we, overanxious to secure a growth, defeat our own object by bathing the surface of the culture medium with toxins which are powerful antiseptics. I have found that inoculation from a tube containing bouillon into which some of the purulent exudate has been placed gives good results in certain cases. Case II is of interest since he presented no symptoms of meningitis until twenty-four hours before death. Here the meninges were probably invaded by pyogenic cocci several days after the receipt of the injury. Cases III and V are fair examples of meninges secondary to a streptococcus infection elsewhere in the body. Case IV presented Kernig's sign which, according to Netter, is present in ninety per cent. of all cases where the meninges of the spinal cord are involved. Moderate leucocytosis is an almost constant symptom. Councilman, Mallory, and Wright[1] have seen the white cells reach 31,000 per cm. It is to be regretted that a differential count was not made in this case. The presence of the colon bacillus in the meninges is of no special interest, as the body had been dead twenty-four hours before necropsy; it has been my privilege, however, to study a case where no other bacterium was found.[2 3] I was not present at the autopsy on the body of Case VI., and do not know by whom the cultures were made. I am, therefore, inclined to regard the presence of the colon bacillus (one culture) as a probable contamination. The bacilli found on cover-slips that were smeared with the meningeal pus, were doubtless the exciting organisms, and possibly gave no evidence of growth in any of the cultures.

THE LEGISLATION NEEDED IN REGARD TO APPARENT DEATH.[4]

By HENRY J. GARRIGUES, A.M., M.D.,
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I.

ALL laws, rules and regulation governing the treatment of the dead in the city of New York, and I have no doubt the same holds good for the whole State, are only intended to protect the community, and they leave entirely out of consideration the thought that perhaps the person supposed to be dead is not so in reality. Even the very latest Sanitary Code, that of 1898, does not require that the occurrence of death shall be ascertained by a physician.

The blank for a certificate of death at the present date reads:

I hereby certify that I attended deceased from ....19 to ....19 , that I last saw .... alive on the .... day of ....19 , that .... died on the .... day of ....19 , about .... o'clock A.M., or P.M., and that to the best of my knowledge and belief, the cause of .... death was as hereunder written.

Duration of Disease.

Chief Cause .....
Contributing Cause .....
Sanitary Observations ..
Witness my hand this .... day of ....19 .
(Signature),
....., M.D.
Residence,
.....

It will be seen from this that it is left to laymen to decide that death has occurred, and *the physician need not even see the body of the supposed dead person.* All that is required of him is to state from what disease the deceased suffered, how long it lasted, and when he last saw the patient alive.

The Sanitary Code prescribes only that no body shall be buried without a permit (Section 170); that the body shall be buried to the depth of six feet below the surface of the ground and four feet below any closely adjacent street (Section 171); that the undertaker must register name and address (Section 172); that no person shall retain, expose, or allow to be retained or exposed, the dead body of any human being to the peril or prejudice of the life or health of any person (Section 175); and that no person shall allow to be retained unburied the dead body of any human being for a longer time than four days, or, where such death has been caused by a contagious disease, for a longer time than twenty-four hours after death of such person, without a permit from the Sanitary Superintendent or the Assistant Sanitary Superintendents (Section 177). Bodies of persons who have died from a contagious disease shall be disinfected and wrapped in a sheet saturated with a proper disinfecting solution, and placed in a coffin or casket which is to be immediately and permanently sealed (Section 155).

All is in favor of the survivor, not the slightest protection is accorded to the supposed dead. From the moment the householder has declared him to be dead he loses all rights in this world. The physician may sign the certificate of his death without giving a single reason, and without glancing at his body. And when the certificate is signed by the doctor and does not contain any suspicious circumstance the permit for burial is issued by the Board of Health. And still we shall presently see that the question whether a person is dead or alive may be one of the most difficult to decide and requires the nicest physical and physiological tests.

II.

What is Death?—According to the definition

[1] Massachusetts State Board Health Report, 1898.
[2] International Medical Magazine, Nov. 1898.
[3] Cases I, II, and III, reported through the courtesy of Dr. Wadsworth, coroner's physician, who conducted the post-mortems; and Cases V and VI, through that of Drs. D. E. Hughes and J. Hendrie Lloyd, respectively.
[4] Read before the Society of Medical Jurisprudence.

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of the Century Dictionary it is "that state of a being, animal or vegetable, in which there is a total and permanent cessation of all the vital functions." *Total* and *permanent,* here lies the difficulty. Some of the more striking vital functions may be paralyzed, and still the spark of life lie concealed in the body. A person may be in such condition that, if left to himself, the vital functions will be permanently extinct, and still by proper manipulations this same person may be brought back to life. This applies particularly to drowned persons, and perhaps even to electrocuted persons. Since Franklin's time we know that lightning and electricity are one and the same thing; and, since it has been proved that men and animals seemingly killed by lightning occasionally can be brought back to life, the logical inference is that perhaps a similar revival may be possible in a person exposed to a strong electric current.

Death is a gradual process. Even in a case of sudden death one literally dies by inches. Many have probably seen a headless chicken run and fly about in a barn-yard. If one chops off the head of a calf, for several minutes the severed head may be seen to exhibit convulsive movements and show all the signs of difficult breathing. If the tip of a finger be brought close to the eye, the eye will wink, just as does that of a live animal. If the cavity of the chest be opened the heart will be seen to continue to contract and relax for a long time. One may even cut out the heart altogether and place it under a glass shade, and still its regular movements continue, showing that it is not yet dead. This life of the organs is shown still more impressively by opening a large artery in a dog and letting him bleed to death. There comes a point when the dog dies, and would remain dead, if left to himself. But if the severed vessel be tied and blood from another dog is injected, the dead dog returns to life, and may continue living as long and in as perfect health as if he had not been subjected to any experimentation. This is due to the life remaining in the tissues which enables them, under the impulse of fresh blood, to resume all the suspended vital functions. The condition of this bloodless dog offers the greatest resemblance to that of a drowned man, and if it were only more generally known, and people would not take for granted that because a person is drawn cold and limp out of the water he is dead, but would use proper means of reviving him, many so-called drowned human beings might be restored to life, as illustrated by the following example: A young man fell one day into the Seine, at Paris, and disappeared under the surface of the water. Twenty minutes elapsed before the body was found. Pale, cold, limp, motionless, insensible, with thick, blue lips and open staring eyes, was it pulled out. Everybody thought the man was dead, except Dr. Bourgeois, who, amidst the jeering laughter of the mob, began to try to revive the supposed corpse. Several hours passed before the slightest sign of life appeared, and still the intelligent and humane efforts of the physician were in the end crowned with success.

When is a person really dead? Not necessarily when he does not breathe, nor when his heart has stopped beating, nor when he would remain lifeless if nothing were done to revive him, but only when the vital functions have been totally and permanently abolished. The most common causes of apparent death are asphyxia, heart failure, cerebral congestion or apoplexy, exposure to cold, a stroke of lightning, intoxication, anesthetics, and bodily injuries, combined with concussion of the brain..

The first observer who made a scientific investigation of the signs of death was the renowned anatomist, Winslow, a Dane by birth, who became professor at the University of Paris. He had particular reason to be interested in this question, since twice he had been taken for dead and laid out as a corpse. He came to the conclusion that of all signs of death there is only one which is reliable, namely, putrefaction. His contemporary, the great surgeon, Louis, combated his views and wrote a learned work on the certainty of the signs of death. But through a strange irony of fate it was reserved for this same man to publish a case showing that both doctors and nurses may be mistaken in regard to real and apparent death. A woman, who had been confined two days before in the Hotel-Dieu Hospital of Paris, dreading, on account of an epidemic, to stay in the hospital, went on foot to the Salpétrière Hospital, a considerable distance, where she arrived so exhausted that she fainted. The attendants succeeded in bringing her too, but soon she relapsed and was thought to be dead. The nurses reported to the physicians, that they might remove the corpse. It was left for two hours on a stretcher in the yard, and was then placed in the dissecting-room, where it was left over night. The following morning a young surgeon came to Louis and reported that he, during the night, had heard groans and sobs, but had been afraid to rise. Louis repaired immediately to the dissecting-room, and found the woman dead indeed, but in a position that showed in a most unequivocal way that she had been alive during the night. She had thrown off the shroud, one leg had been stretched from the bier and rested on the floor, and one arm leaned against one of the wooden horses that supported the boards. It was then evident that the poor woman, some time during the night, had awaked from her lethargy, had moaned and sobbed, and tried to rise, until she finally had succumbed to bodily exhaustion and mental anguish, and had become the prey of death. Now she was really dead, before she had only been so apparently.

Since the time of Winslow and Louis the question of apparent death has repeatedly been taken up in France and Italy, countries in which the law prescribes speedy interment, and competent men have been trying to find reliable signs of death before the appearance of dissolution.

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III.

Signs of Death.—Among all the signs of death the one that from of old has made the strongest impression on mankind is the cessation of respiration. In all languages we find expressions like these, "to draw the last breath," or "to expire" as synonyms of dying. But people may not breathe and still be alive. In India, monks have the power of entering into a trance during which they have been kept buried for six weeks, and still been revived. New-born children often remain silent for a long time. I have myself worked for two hours and a half with such a child before it began to breathe. Breathing may also be so weak that it is difficult to ascertain. Then a mirror is held before the mouth in order to see the condensed vapor in the breath cloud the surface of the glass. Or a light feather or a flame, is held near to the mouth in the hope of seeing them move. Or a glass brimful with water or quicksilver is placed on the chest in such a way that the slightest movement would cause an overflow. The best of all these tests is, however, the stethoscope or the phonendoscope, instruments by means of which a very faint sound can be heard.

Another sign of death is the arrest of the circulation of the blood. We feel for the pulsation at the wrist, or at the apex of the heart, or, still better, we apply the above-mentioned instruments, by means of which we have a characteristic double sound, caused by the contraction of the heart. A commission appointed in Paris, in 1837, declared the absence during two minutes of any heart sounds to be a certain sign of death, but numerous cases have proved the fallibility of this statement. Of the large number we can only refer to a few.

Dr. Tournier of Paris was, in 1836, called in haste to General Baron von V., a man of eighty, who was supposed to have died suddenly. He found the old man lying on his back with open eyes and mouth. The body was motionless. A mirror held before the mouth was not dimmed. The flame of a match remained unmoved by any breath, nor did it evoke any sign of pain when applied to the nostrils. The dilated pupils did not contract on the approach of a strong light. A careful auscultation did not reveal the slightest respiratory murmur nor any contractions of the heart. Everybody, inclusive of the doctor, held the man for dead, but six hours later he turned over and asked where he was, and he lived two days longer.

The celebrated Parisian physician, Brachet, has published the following case: A man did not feel very well and fainted. The pulse could not be felt, nor were the heart sounds audible, although the stethoscope was applied for three minutes. During the following eight minutes Brachet examined repeatedly the pulse and the heart, without finding the least trace of circulation. In the meantime strong stimulants were applied, and when some ether was poured into the nose, a slight movement of the upper lip was elicited. Twenty minutes elapsed before the heart began to beat, and still the patient recovered entirely.

In another case of apparent death, Andral, also a celebrity of the Faculty of Paris, during six hours could not hear the slightest heart sound.

Besides the tests already mentioned there are others used to ascertain the existence of circulation. If, for instance, a thread be tightened round the finger of a living being the latter will become blue, because the constriction prevents the venous blood from flowing back to the heart, while arterial blood continues to flow in through the deeper vessels. Nothing of the kind takes place after death. But the test is of little value, since it fails in living persons whose heart is too weak to propel the arterial blood into the capillaries of the fingers, as after severe hemorrhage or in cases of advanced consumption. If one pushes a needle into tissues rich in blood-vessels, such as the tongue, the lips, or the cheeks, a drop of blood will escape; not so in the dead; but after a heavy loss of blood none will show in the living either. A similar test on a greater scale is to cup the abdomen. But when in cases of suspended animation the action of the heart is interrupted, there is no blood in the capillaries of the skin, and we do not obtain any, even by cupping.

If ammonia is injected under the skin of a living being a large, dark spot appears; not so in the dead; but there is the same exception to be made as in the preceding test.

After death the arteries become empty, and if we cut one no blood will flow, whereas it will do so in the living. But even this is not quite sure. Thus, Brachet has reported the case of a newborn child, whose body was entirely limp. No pulsation could be felt or heard during several minutes, and no blood flowed from the cut navel cord, and still, by insufflation of air into the lungs the doctor succeeded in reviving the child. After twenty minutes the heart began to beat, and in turn the other vital functions appeared.

The advice has been given to push a long, fine needle into the heart, the slightest movement of which will produce a visible excursion of the outer end. This has been done without harm in animals, but in man it has not been tried, as far as I know.

A valuable sign of death is the purple color assumed by the dependent parts of a dead body. But a similar discoloration has been found in cholera patients before death. It is also found in scurvy, and might be due to contusion.

Another good sign of death is the parchment-like appearance of places denuded of their epidermis, while such places in the living cannot become dry except when a scab has formed over them.

A most excellent sign is the so-called *rigor mortis*, or stiffness of death. Immediately after death the whole body relaxes, but in the course of from ten minutes to seven hours this limpness is replaced by a peculiar stiffness of all the mus-

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cles, which can only be overcome by a certain degree of force—and continues for a day or two—until beginning putrefaction, when the former pliability returns.

The only condition which might be mistaken for rigor is that stiffness that is found in persons who are stiff-frozen without being dead, a condition from which people have been recalled to life even at the end of two days. But it is said that a frozen limb on being bent emits a sound like that heard on bending a stick of tin, and which is produced by the crushing of ice crystals.

Only gross ignorance could confound rigor with the stiffness due to tetanus. When rigor is present I take it to be an infallible sign of death, but it may be absent. When a hammer or other object of metal with a suitable handle is dipped in boiling water and then applied to the skin of a living person as a rule it causes the epidermis to be raised in a blister, surrounded by a red circle, while no such reaction, as a rule, takes place in a dead body. But there are exceptions in both directions. In a hydropic person or on a swollen limb the vesicle may be formed even on the dead body, and, on the other hand, it may not appear in very lean and decrepit individuals.

The most irrefutable, and, in the opinion of many, the only absolutely reliable sign of death is putrefaction of a vital organ. In most cases decomposition begins from one to three days after death. A greenish color appears in the groins and extends gradually over the whole body. The corpse emits a disagreeable odor. The tissues become softer. Gases are developed in the interior of the body. The epidermis forms vesicles which burst and expose the denuded skin. The process of disintegration is a slow one, but we need not follow it, since the already mentioned features of it are sufficient proof of real death. These seven tests are simple and of great value.

In another group I have placed other tests which either are less reliable or are more difficult to apply. *Pallor, immobility,* and *insensibility* are, of course, very deceptive. A striking case in point is that of the French cardinal, Monseigneur Donnet, who, when a member of the Senate tried hard to obtain better legislation for the protection of the apparently dead. When a young man he swooned one day while preaching to a large congregation. He was believed to be dead. He could not see, but he could hear distinctly everything; and we can imagine his horror when, unable to move a limb or utter a sound, he heard the tolling of the church-bell proclaim his death. The physician declared he was dead and signed the permit to bury him. The bishop came and, standing at his feet, recited the solemn *de profundis.* The carpenter measured his body for the coffin. But, finally, the voice of a dear friend of his youth made so profound an impression on him that he awoke from his lethargy.

When we hold the hand up against the light, the flesh of the fingers becomes translucent; not so in the dead. But this translucency has been found lacking in people affected with cholera or malaria, or shortly before death; and on the other hand it has been found present two days after death.

Immediately after death the temperature of the body often increases a little, but after that it sinks about one degree per hour, until it becomes like that of the surrounding air; but in cases of apparent death the temperature may also be very low, and after real death it remains occasionally high for days and the cheeks may remain red.

The appearance of the eyes has attracted considerable attention both from laymen and oculists. At the moment of death, the pupil becomes much dilated and remains so for hours. It does not contract at the approach of light, nor does it respond in the usual way to the instillation of eserine or belladonna—the first of which drugs causes contraction, and the second dilatation. Some time after death the cornea becomes dull, the conjunctiva is covered with a thick mucus, the ball softens and sinks back in the orbit. Black spots appear on the sclerotic. Ophthalmoscopic examination shows the vessels of the retina of a uniform pink color, whereas in life the arteries are bright red, and the veins dark brown. Still later the blood-vessels present a rosary-like appearance, due to the presence of air vesicles in their interior. But a renowned oculist has told me that toward the end of life the cornea becomes so dim that one cannot see the retina distinctly. A solution of fluorescine, injected hypodermically, makes the sclerotic green in the living, but does not cause any change in the dead body. The other changes in the eye enumerated above are not reliable or suppose a familiarity with the use of the ophthalmoscope, which even few physicians possess. I have, for instance, seen the white turn black in patients affected with Asiatic cholera, and the dilatation of the pupil may be due to belladonna.

Living muscles contract on the application of an electric current, a contractility which is lost in from one and a half to twenty-seven hours after the death of the individual. Absence of contractility would then prove that the person was dead, but its presence would not prove that he was alive. In fact, it was by observing the contractions in the legs of dead frogs that Galvani first discovered that form of electricity which bears his name. A needle thrust into living tissue becomes rusty much sooner than when inserted into a dead body. Attention has been called to a peculiar buzzing sound which is heard when we apply the ear to the chest or the hand of a living person, and which we also hear in our own body when we insert a finger into the auditory canal. This sound ceases twelve or fourteen hours after death; but in cases of apparent death the vitality is so low that the sound likewise discontinues.

IV.

According to the unanimous testimony of those who have been victims of apparent death but

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have been rescued in time from the horrors of live-burial, the sense of hearing remains unimpaired. They could hear every word said while they were in their trance, but it was absolutely impossible for them, in spite of the greatest mental effort to move a limb or in any way to convince the by-standers of their terrible mistake.

Some adversaries of the movement to protect the apparently dead have pretended that even if a person were buried alive there would be no suffering, that he would be smothered almost instantaneously in the coffin, and that all the cases in which coffins had been opened and the bodies found distorted were due to post-mortem changes in the corpse. But this specious plea does not hold good at all, and recently there has been an opportunity to almost experimentally show the sufferings of persons buried alive. In the village of Ternowa, in Southern Russia, there lived a family by the name of Kowalew, who became the center of a little sect, whose members, among other things, refused to give any information to the officials charged with taking a census in 1896. Voluntarily they had themselves walled in by batches in a cave. When, finally, the horrible act was discovered and the graves were opened, it was found that while the very old people and children seemed to have succumbed with comparative ease, the young women displayed fearfully contorted features and stood in postures showing that they actually had tried, in vain, to burst the vault that separated them from the outer world. No, there is no use denying the fact that people apparently dead have suffered the most intense anguish, while preparations were made for their burial, and the most profound despair and physical pain after having been buried alive.

In the city of New York there is not much danger, at least among those who own a few dollars, of being buried alive. The absolutely destitute will probably find their way to a dissecting-room, and the others will be cared for by undertakers, who will place them in an ice-box, and effectually extinguish what spark of life may yet lurk in their inner tissues. Many years ago I treated a beautiful young woman for consumption. When I was called to see her she was already near her end, but imagine my surprise when, one winter morning, during a severe frost, I came and found my patient laid out as a corpse on the floor in a room, all the windows of which had been opened. When I applied the stethoscope to her chest and listened, I could yet distinguish the above-mentioned buzzing sound, although breathing and heart sounds had stopped. I do not doubt that she was dead, but suppose she had only fainted and been in a state of lethargy, to expose her to the low temperature of a northern winter was certainly a sure means of extinguishing the ebbing life. Another case was that of a man, affected with spinal disease. He was paralyzed in both legs and had often intense attacks of dyspnea. During such an attack I was sent for. I was not in, but soon returned, and hastened to the house, which I reached in less than two hours, and still I was late. In the parlor I found the wife bathed in tears and surrounded by sympathizing friends. In the next room I found the undertakers busily engaged in preparing the still warm body for burial. With great difficulty I obtained the opportunity to look for some signs of death. It was half-past ten in the evening. The undertaker and his men were in a hurry to go home or to the saloon, and placed the yet warm body on ice in an almost hermetically-tight box. Such cases are by no means exceptional. Many people have an almost superstitious respect for—or shall we say fear of—the dead. Undertakers display night-bells much more conspicuously than physicians do. A person has scarcely drawn the last breath before the survivors, in the middle of the night, send for an undertaker, who hauls the supposed dead body out of bed, throws it on hard, rough boards, and shuts it up in an ice-box. Nobody even thinks of doubting if he is really dead or not. As soon as one stops breathing, he is surrendered to the tender mercy of the undertaker. And all this in the face of the fact that it is a delicate scientific question to decide whether a person is dead or not.

V.

If it is possible for a competent physician, without waiting for decomposition to set in, to decide whether a person is dead, this is certainly not the case with laymen. It is, therefore, a radical fault in all legislation governing dead bodies that it is left to laymen to decide if death has taken place, that the possibility of apparent death is lost sight of, and that no protection whatever is accorded the supposed dead against ill-treatment, injury, suffering, nay, manslaughter at the hands of the survivors.

First of all the right to decide whether a man is dead or not should not be given to those who happen to be present when he stops breathing, but only to certain individuals, particularly fit by knowledge and training to make the necessary examination. In some European cities there are specially appointed physicians, whose duty it is to view the body and give the certificate of death. Such a system, as all specialization, has the advantage that such physicians would have exceptionally favorable opportunities for studying the signs of death and finding new ones, and that they would acquire exceptional experience in the distinction between true and apparent death. On the other hand, such a system has its drawbacks. The election or appointment to such a position would depend on political affiliation and influence, and physicians who deal much with politics are rarely distinguished for their professional attainments. Secondly, such officials would probably be so overloaded with work that they would be tempted to fulfil their duties in a perfunctory way, which, the writer is informed, is the case in France, where this system is in use in large cities. And, thirdly, they would lack all personal knowledge of the defunct.

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In my opinion it might safely be left with the ordinary legally authorized practitioners of medicine to decide if a person is dead, but they ought to be held to perform this duty in a way befitting the enormous responsibility they incur. The certificate of death ought to contain the declaration that they personally have inspected the dead body, and a false statement in this respect should be severely punished. Next, some of the most important and simple signs of death should be enumerated in the blank, and the physician who signs it should be compelled to testify to the presence or absence of every one of them.

I do not know if the rural parts of the State are sufficiently furnished with physicians that such a certificate could be required everywhere. I am, however, inclined to believe it. According to the census of 1890 the State of New York had 5,997,855 inhabitants and 11,139 physicians, that is a physician for every 538 inhabitants; and it would, therefore, seem an easy matter for the physicians to attend to this matter. But if in some places the distance would be so great that the expense of such a certificate would become exorbitant, proper laymen might in such localities be appointed as inspectors of the dead and have the right to fill out and sign the death certificate, but in such cases putrefaction should be the only admissible sign of death.

Furthermore, the law should prescribe that until a certificate of death has been filled out and signed by the proper authority, the supposed dead is to be treated as living, and it should be made a crime to treat him in any way that would cause him pain or do him harm if he were alive. That would put an end to the abominable placing on ice, or hauling the body out of bed and removing it to an ice-cold room, or carrying it into the yard. Until some such law is passed none of us is sure that he will not be buried alive or killed by an undertaker.

Recently Mr. Emile Camis of Paris has, in several scientific societies, exhibited the apparatus invented by the Russian Count Carnice Karnicki, in order to give aid to those who have been prematurely buried. It is very ingenious and simple of construction. A metal tube is inserted in the cover of the coffin, and as soon as the apparently dead revives and moves he raises a large metal ball, sets a bell ringing, fires a shot, and admits air and light into his coffin. As long as we have such delusive protection against live burials, such a contrivance must be welcomed, but think of the horrible situation of a person who awakes six feet under earth and finds himself in a narrow coffin. Much more satisfactory would waiting mortuaries be, where the bodies are kept until decomposition begins. It is true, it is often said, that nobody ever revived in such establishments, but Gaubert[1] says that fourteen cases have occurred in Germany, and he quotes a letter written by Ehrhardt, Mayor of Munich, in which he declares that several persons who were believed to be dead had returned to life in the Waiting Mortuary of that city. But if the apathy of the public in general, and, not least, of the medical profession is too great to introduce such institutions that are expensive and entail a change of habits that would be distasteful to many, let us at least use ordinary precautions in order to avoid the terrible mistake of consigning a living person to his grave.

716 Lexington Avenue.

[1] Les Chambres mortuaires d'attente, p. 182.

CLINICAL MEMORANDUM.

LIGATION OF THE FIRST PORTION OF THE RIGHT SUBCLAVIAN FOR ANEURISM OF THE THIRD PORTION.[1]

BY A. E. HALSTEAD, M.D.,
OF CHICAGO.

MRS. F. W., American, aged forty-four years, married; family history, negative; has had three children, the first two being twins. Of these, one died at the age of three months from some unknown cause; the other at six years, from diphtheria. The third child lived two weeks. Has not had any miscarriages nor premature labors. Has had no illnesses excepting the ordinary diseases of childhood, and diphtheria at the age of nineteen. Patient denies having had venereal disease, although she has had treatment for some uterine trouble. The present illness began insidiously about nine months ago without any known cause. She first noticed a feeling of numbness and tingling in the ring and little fingers of the right hand. After about three months she began to have cramp-like pains referred principally to the inner side of the arm and forearm. This was soon followed by shooting and throbbing pains along the posterior surface of the arm and in the right shoulder immediately under the inferior angle of the scapula. These pains at first were paroxysmal in character, but lately have become nearly constant, so that her rest has been broken and her appetite impaired.

Examination shows a fairly well-nourished individual, with a somewhat rapid and irregular pulse. Just above the right clavicle in the subclavian triangle is a tumor, more prominent when the patient is erect than when reclining. This tumor is somewhat smaller than a hen's egg, globular in shape, soft and easily compressible. On palpation a well-marked expansile pulsation synchronous with the systole of the heart can be felt. On auscultation a distinct bruit can be heard. The radial pulse on the right side is perceptibly slower and smaller than on the left.

An operation was performed November 8, 1899, at the Chicago Policlinic Hospital, with the assistance by Drs. J. E. Best, F. S. Coolidge, and P. F. Morf. A curved incision with the convexity downward was made, beginning just above the suprasternal notch and ending externally about two centimeters above the deltoid tubercle of the clavicle, the lowest point being about three

[1] Read at a meeting of the Chicago Medical Society, February 7, 1900.

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centimeters below the clavicle. A flap consisting of skin, platysma, and fascia was reflected, fully exposing the subclavian triangle and the origin of the sternomastoid muscle. This muscle, with the sternohyoid and sternothyroid, was divided transversely just above the clavicle, and the internal jugular vein and carotid artery exposed. The carotid artery, and the pneumogastric and recurrent laryngeal nerves were retracted inward while the internal jugular and innominate veins were retracted outward, exposing the lower part of the scalenus anticus muscle. Close to the inner edge of the scalenus anticus, but considerably deeper, the vertebral artery could be located. The thyroid axis was found three-eighths of an inch external to the vertebral. This was traced downward until the subclavian was reached. The sheath of the subclavian was incised for a distance of about one-half of an inch just internal to the point of origin of the vertebral. An attempt was made to pass a ligature about the artery at this point. In doing so the posterior wall of the artery ruptured, giving rise to a profuse hemorrhage which completely obscured the operative field. Several attempts were made to pass the ligature, but as soon as pressure was removed from the artery the hemorrhage recurred. This necessitated the ligature of the artery some distance below the point of rupture, which could not be accomplished without resection of the clavicle. Accordingly, the clavicle was divided about two inches from the sternoclavicular articulation, the sternoclavicular ligaments severed and the clavicle reflected downward. This did not seem to improve materially the situation, so that the inner fragment of the clavicle was removed and with it the upper angle of the sternum. This gave ample room. The artery could now be exposed for a distance of about two inches from the internal border of the scalenus. All of the structures in relation to this portion of the vessel could be easily identified. Three catgut ligatures were quickly placed about the artery and tied, two of these being proximal and one distal to the point of rupture of the artery. This distal ligature had to be placed very close to the vertebral artery. The two ligatures proximal to the point of rupture were placed about three-quarters of an inch apart, and were all tied so as to occlude the vessel, but not to rupture its coats. After the ligatures of the vessel had been completed and the operation-wound sponged dry, the artery could be traced downward and backward for a distance of about three inches from the inner border of the scalenus anticus. In place of there being a common trunk, from which the carotid and subclavian were given off, the latter seemed to pass behind the carotid and come directly from the arch of the aorta. No brachiocephalic trunk could be seen. The relation of the origin of the subclavian to that of the carotid could not be determined. The divided muscles were sutured and the wound closed without drainage. The patient's temperature never rose above 99.5° F.; the pulse, which previous to the operation had ranged from 118 to 130, gradually dropped to normal during the first ten days. The skin-sutures were removed on the fifteenth day, when the wound was found healed by primary union. The patient complained some of the arm and hand feeling cold during the first two weeks. The pain in the arm and hand which was so annoying before the operation has completely disappeared. There is no radial pulse, nor any return of pulsation in the aneurism up to the present time (seven weeks after the operation).

Several points in connection with this case are worthy of consideration:

1. The aneurism involved the entire third portion of the subclavian and encroached slightly upon the second portion, so that the only rational method of treatment was ligation of the first part.

2. The anomalous position of the subclavian vein, which was found above the artery throughout its whole course. Owing to this position of the vein, it was torn while endeavoring to retract it downward so as to reach the artery external to the internal jugular. As a result of this accident a considerable amount of time was consumed before the hemorrhage could be controlled by lateral ligation of the vein.

3. The anomalous origin of the right subclavian and the unusual depth of this vessel were for a time very confusing.

4. The possibility of having to resect the clavicle was considered before the operation. It was determined to ligate the vessel without, if possible. I now considered it a necessary step and strongly recommended preliminary resection of the clavicle and a portion of the sternum in all cases. In my opinion it makes very little difference whether the portion of the clavicle which is resected is restored or not. In the case just reported the patient had an almost perfect clavicle at the end of six weeks, although the inner third together with the upper end of the sternum had been removed.

5. The ligatures employed in this case were of formaldehyde catgut. The suggestion of Souchon of applying two or three non-contiguous absorbable ligatures should be followed in all cases. The ordinary surgeon's knot is all that is required. The ligatures should be drawn sufficiently tight to occlude the vessel, which can be determined by cessation of pulsation in the aneurism, and not tight enough to rupture the arterial wall.

6. Probably the most important factor in securing favorable results in these cases is the preservation of an aseptic condition of the wound.

7. As regards the results thus far obtained in the ligation of the first portion of the right subclavian, this case is, it is believed, the second on record where the patient survived the operation.

Bequest to the Presbyterian Hospital.—Through the generosity of the late Mr. A. G. Cone, the Presbyterian Hospital, Chicago, will shortly receive $135,000.

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MEDICAL PROGRESS.

Early Diagnosis of Tuberculosis.—Since it has become the rule to examine the sputum of all doubtful cases many errors in diagnosis are avoided. M. Henkel (*Münch. med. Woch.*, March 27, 1900) points out, however, that frequently no expectoration can be obtained. When the physical examination of the apices is negative in these cases it is important to remember that not infrequently the tuberculous deposits may have their seats in other parts of the lung, such as the lower lobes. The first signs, as a rule, are obtained by auscultation and consist in a dry, creaking sound, often of musical character heard best in the supraspinous or infraspinous fossa or in the intrascapular region. A slight evening rise of temperature is rather suggestive. Finally, where all other means fail, direct aspiration of the lung may be practised and the obtained blood examined for bacilli. If done slowly and carefully this procedure is never attended with danger.

Prognosis of Brain Syphilis.—The phenomena produced by brain syphilis, says C. J. Aldrich (*Cleveland Med. Gaz.*, April, 1900), are so capricious and variable that the general laws of prognosis in acute brain disease hold good in specific lesions to a limited extent only. Youth, alcoholism, and especially excessive venery, induce a peculiar liability to cerebral syphilis. In the young the recuperative powers cause ready response to treatment, but the last two conditions call for a grave prognosis. The underfed, overworked and delicate, living with poor hygienic surroundings, do badly. Females are less liable to acute softening than males. Acute softening and hemorrhage are the same as from any other cause, yet syphilitic apoplexies are seldom rapidly fatal, may recur several times, and may be followed by little, if any, permanent injury. In syphilis of the convexity, or in the localized convulsive seizures of a Jacksonian epilepsy, the prognosis is good. In all cases the lesions of the secondary stage tend to respond readily to treatment, but the tertiary lesions are very resistant. Although the cure is apparently complete, relapses are common, and the cicatricial tissue replacing the lesion may at any time cause pressure by its contraction and result in permanent injury. Lesions often persist because iodide is given in too small doses. It should be administered in rapidly increasing doses up to three drams a day.

Addison's Disease.—L. Huismans (*Münch. med. Woch.*, March 27, 1900) reports several interesting cases of this disease. In the first patient the onset was very insidious, with gastric symptoms. The post-mortem showed extreme atrophy of the suprarenals, a small tuberculous focus in one of the poles of the right organ and a marked contraction of the entire intestinal tract. The second case cited developed a subphrenic abscess which was found to communicate with a large deposit in the left suprarenal, while clinically a remittent fever, meteorism, and general typhoid state set in prior to death. In these two cases no changes were found in the celiac ganglia. In conclusion the author proposes a new theory to explain the symptoms of Addison's disease. He believes that certain toxic substances, such as pyrocatechin, phosphoric and lactic acid, are developed in the intestines and muscles and that these are altered in the suprarenals and there prepared for excretion. When for any reason the suprarenal tissue is destroyed, these substances will remain in the system and lead to a chronic intoxication.

Diagnosis of Pneumonia.—In the *Medical Review* (March 31, 1900) L. H. Behrens has reported two cases which proved to be lobar pneumonia, but which were very difficult to diagnosticate at the beginning on account of the peculiar and limited symptoms presented. In one the attack began suddenly, with paroxysms of sharp, lancinating pain over the precordium, extending to the left shoulder and down to the left arm. Physical examination was negative and the pains gradually ceased, to be followed in about three hours by another severe paroxysm similar to the first but with considerable pain in the epigastrium also. The temperature was practically normal for about fifteen hours, and a few moist râles at the end of twenty-six hours were the only physical signs present. Evidences of consolidation appeared in about forty-eight hours. In another case the onset of the disease closely simulated the excruciating pains accompanying the passage of a renal calculus, the pain centering over the kidneys and extending to the umbilicus, especially on the left side. This was followed in a few hours by pain in the epigastrium and vomiting, and, as the patient had been very alcoholic, the diagnosis of gastritis was made. Thirty-two hours after the onset a few crepitant râles could be discerned, but the temperature was still normal. The temperature remained low throughout; the delirium was marked, probably due to alcoholism, and the recovery very slow.

Alcoholism.—After a prolonged trial of the Keeley cure, the injection of strychnine nitrate, the use of methylol and of quinine and nitromuriatic acid, the Cery retreat for inebriates has adopted a treatment described by C. de Martines (*Revue méd. de la Suisse Rom.*, March 20, 1900). Almost always the patient during the first few days becomes violently agitated, throws things about and attempts to hurt himself and others, so, as restraint has a bad effect, he is allowed free movement in a room with padded walls and devoid of furniture. Two glasses of wine a day are allowed during the first week or two, but no longer. As soon as the mental excitement subsides, the patient is made to walk in fresh air until tired, and takes a warm bath for half to one hour each day. The only drugs used are chloral hydrate, twenty to thirty grains, to produce sleep, preferably given in a little wine or beer, or, if

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this is refused, one-sixtieth of a grain of duboisine or hyoscine hypodermatically. Morphine is never employed as it is considered responsible for many untoward effects in the treatment of these cases. The bowels are regulated by artificial Carlsbad salt or other saline purgative. The lungs are examined every morning as at any time a pneumonia may develop. Any medication is more rapidly absorbed if it is given in a slightly alcoholic mixture.

Blood-Test for Syphilis.—Since the report of this test by Justus, an assistant in Schwimmer's clinic at Budapest, very little confirmatory work has been done except by Drs. Cabot and Mertins of Boston. Recently D. H. Jones (*N. Y. Med. Jour.*, April 7, 1900) has applied the test to fifty-three cases drawn from the service at Gouverneur and Bellevue Hospitals. The test depends on the asserted fact that a single inunction of mercury in all untreated cases of secondary, tertiary and congenital forms of syphilis causes a reduction in the hemoglobin, due to the sensitiveness of the red blood-corpuscles to the action of the drug, while in non-syphilitics, no reaction occurs. Of seventeen active syphilitics, thirteen responded and four were negative. One active case under treatment and two latent cases were also negative. Out of fifteen cases of chancre, only three responded, and all the control cases, eighteen in number, were negative. The result shows that the test is liable to fail in two classes of cases in which a diagnosis is especially desired, *viz.*, in latent cases and in early chancre and sometimes at the beginning of the secondary stage. The range of usefulness has not yet been worked out, however, and it is very likely that it may be a very valuable method of corroborating a diagnosis.

Chronic Carbon Monoxide Poisoning.—The acute cases of poisoning by carbon monoxide gas are numerous and usually easily recognizable. When the poison is slowly absorbed by the system for a considerable length of time, a chain of symptoms is liable to develop which does not by any means point clearly to the source of the trouble. T. J. Yarrow (*N. Y. Med. Jour.*, April 7, 1900) has seen a well-marked case of the above chronic condition and gives some valuable information in regard to the diagnosis of this malady. The symptoms, although sometimes vague, may be summed up as anemia, generally of a simple type, with or without leucocytosis, frontal headache, anorexia, tinnitus aurium, vertigo, foul taste in the mouth, abdominal pains, often of a colicky character, persistent disorder of digestion, and general lassitude. The carbon monoxide forms a very stable compound with the hemoglobin, interfering greatly with its oxygen-carrying power and giving a cherry-red color to the blood. This causes the florid countenance in acute cases but not the more chronic ones. Examination of the blood by the spectroscope is the only certain method of making the diagnosis, and consists in the dilution of a small quantity of blood with distilled water, followed by a direct examination of the fluid by the hand spectroscope or the microspectroscope. The absorption bands are noted and ammonium sulphide or Stokes reagent is then added, the mixture thoroughly stirred and slightly warmed. If carbon monoxide be present it will be found that the normal reduction to hemoglobin does not take place, but the absorption bands persist and are somewhat nearer the violet end than those of oxyhemoglobin. Several chemical tests may also be made. A small leak from the artificial gas-pipes is probably the most common cause of this condition, and in the crowded, poorly-ventilated tenements it is, no doubt, more often present than is supposed.

Whooping-Cough.—In the grave cases of pertussis, accompanied by frequent and severe vomiting, with consequent loss of flesh and strength, dependent upon prolonged spasm of the glottis, N. R. Norton (*Archives of Pediatrics*, April, 1900) advocates intubation. The paroxysm begins as usual with excitement, a desire for support, the spasmodic cough and even cyanosis, but when the inspiratory effort is made there can be no glottic spasm and the paroxysm terminates abruptly without the least distress or vomiting. Hard rubber intubation-tubes are preferable to metal ones as spicules of calcareous matter deposit upon the latter and cause excoriations and ulcerations. As general treatment for whooping-cough the author administers carbonic-acid gas by rectum. The gas is generated slowly by adding one-half ounce of tartaric acid in crystals to a solution of six drams of bicarbonate of sodium, and it is run into the rectum for about five minutes through a rectal tube three times a day. During the administration the skin is flushed and a mild diarrhea may be induced, but the severity and number of the paroxysms is reduced, and the vomiting ceases.

Kernig's Sign in Infants.—Although considering Kernig's sign of meningitis a valuable diagnostic aid in adults and older children, F. A. Packard (*Archives of Pediatrics*, April, 1900) warns against attaching too much importance to it in the infant. Two cases at sixteen months and one at four months, proven by autopsy to have had meningitis, failed to give the sign. One case at four months responded well to the test and autopsy showed no anatomical change in the meninges.

Uses of Creosote.—Tubercular inflammations of the lung are probably the common lesions in which creosote is employed and yet its usefulness is, no doubt, considerable in many other conditions. T. C. Test (*N. Y. Med. Jour.*, April 7, 1900) has reported some of his clinical observations on the action of this drug in other affections. Several cases of very obstinate intestinal fermentation, flatulence, and autointoxication, are cited, which were treated by ordinary digestive ferments and intestinal antiseptics without any material

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benefit. Creosote, in doses of about one minim three or four times per day, well mixed with a preparation of malt, gave surprisingly good results. It is not known whether the action of this drug is a direct one on intestinal contents or an indirect one, as a glandular stimulant during elimination, but in such small doses the indirect action must be very slight. Several cases of whooping-cough were markedly improved by creosote and as an antemetic it sometimes proves very efficacious on account of its sedative action on mucous membranes.

Gouty Deposits.—So many physicians have been baffled in their attempts to cause the absorption of gouty deposits that new suggestions are always welcome. Believing that the local application of a solvent would be most beneficial E. L. H. McGinnis (*N. Y. Med. Jour.*, April 7, 1900) has used a solution of iodide of lithium applied to affected parts by means of absorbent cotton. The positive pole of a galvanic battery was then closely applied to the wetted cotton and a current of from ten to fifteen milliampères was used for from eight to ten minutes. This treatment was employed daily and within a very short time a marked diminution in the deposits resulted in the three cases reported by the author.

Analysis of Gastric Contents.—A new method of easily determining the amount of combined hydrochloric acid in the gastric juice is proposed by O. Cohnheim and H. Krieger (*Münch. med. Woch.*, March 20, 1900). The entire acidity is determined in 10 c.c. of the filtered fluid by the usual methods. A similar amount is then measured off and phosphotungstate of lime added. This has the property of reacting with acid albumin with the production of free hydrochloric acid and phosphotungstate of albumin which falls as a precipitate. On filtering, the hydrochloric acid can easily be determined, when, on deducing the result from the entire acidity, the amount of combined acid can readily be estimated.

Treatment of Whooping-Cough.—Chas. G. Kerley (*Archives of Pediatrics*, April, 1900) reports a study of various methods of treatment tested in 752 cases of pertussis. No treatment was used until the height of the paroxysmal stage had been reached, usually ten to fourteen days. The age was from six weeks to twenty-six years, half being less than two years. The attacks lasted from three to twenty weeks. The very young and the very delicate often did not whoop during severe attacks. Convulsions and hemorrhages from the nose, eyes and ears, or beneath the skin, were observed. No benefit was obtained from insufflations of resorcin and boric acid with bicarbonate of sodium; from inhalations of vapocresoline, or from alum, horse-chestnut leaves, or dilute nitric acid. Bromoform was of service in only three out of twenty-two cases; cocaine hydrochlorate, one-tenth grain every four hours for a two-year-old child, was of limited value. Quinine, twelve to twenty grains in twenty-four hours, was very efficacious, but tended to derange the stomach and produce vomiting, and was difficult to administer to young children on account of its bitter taste. Belladonna was tried in sixty cases and was pushed to its physiological limit without influencing a single case in the slightest degree. The bromides were of much value, and antipyrine was found to be the best of all the drugs employed. These last two drugs are well borne if given in tablet form or in syrup of raspberry on a full stomach, and, when given together, more effectively control the disease than either alone. The dose for a child of eight months is one-half grain of antipyrine and two grains of sodium bromide every two hours. A valuable addition to the drug treatment in the very young, or those with complicating bronchitis or bronchopneumonia, is the steam spray for fifteen minutes every two hours. Steam inhalations medicated with creosote, turpentine, or wine of ipecac, may be of some value. In every case abundance of fresh air is a requisite.

Preventive Operation in Appendicitis.—M. Moullin (*Edinburgh Med. Jour.*, April, 1900) says that every case of inflammation of the appendix even if it is catarrhal at first, becomes infective before many hours. The epithelium, which is the protecting barrier, is soon injured, and then the ever-present bacteria invade the wall. In even the mildest cases, microscopical examination shows the organisms in the lymphatics. At the onset of appendicitis, it is impossible to say what is to follow, gangrene, ulceration, perforation, septic lymphangitis, portal pyemia, or circumscribed abscess. In some of these cases preventive operation offers the only hope. In others operation must come at last. It, therefore, would seem perfectly fair to make an exploratory incision in the right iliac fossa and treat the appendix according to findings, very early in the attack, *i. e.*, before the onset of gangrene or suppuration would be apt to occur. If all the cases, which, under the present methods, finally come to operation, were operated upon before thirty-six hours have elapsed, some lives, which are now lost, would be saved, and there is no reason to think that any of them saved under prevailing methods would be exposed to additional risk. Some cases may never require operation. In the great majority of cases it is possible, by the end of thirty-six hours, to form a fairly accurate judgment of their gravity. The key is to be found not so much in the intensity of symptoms, as in the way they advance or recede. If the symptoms begin mildly and increase, or if they begin with severity and do not improve in thirty-six hours, or if sudden exacerbation occurs, suppuration is imminent. Increasing rapidity of pulse is invariable in grave cases, but the absence of one or more of the other so-called cardinal symptoms is of no importance. Operation must be preventive in the narrow sense of the term. Gangrene may occur in twenty-four hours, suppuration often in forty-eight.

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Each case must be operated upon according to its merits. In many cases operated upon on the fourth or fifth day (so-called early operations) the abdomen is distended and the intestine paralyzed. These cases, which run up the mortality, are the ones which could be saved by a timely exploratory preventive operation.

Sterilizing the Hands and the Patient's Skin.—The tincture of green soap, according to Honel *(Beit. z. klin. Chir.,* vol. 26, p. 475), is an easy and sure method of sterilizing the hands before an operation. The hands should be thoroughly scrubbed with it for five minutes and then wiped, but not washed with water. If they remain slippery, they may be quickly rinsed in a solution of bichloride of mercury 1-1000. The skin of the patient may also be prepared in the same manner. Honel has tested this method in about two hundred cases and has found it satisfactory.

Sealing of Aseptic Wound.—H. O. Marcy *(Annals of Surgery,* April, 1900) believes that clean-cut operative dissection is a very important step toward obtaining primary union. For germs to grow it is necessary to have a favorable soil and this is produced by tearing, bungling, blunt dissection, clamping of much tisue, and tying of many ligatures. Therefore, not only should the operative field, the surgeon's hands and the instruments be rendered aseptic, but, at the end of operation, the tissues left in the patient should be as little damaged as possible. Like tissues should be closely apposed by buried, absorbable sutures, preferably of tendon soaked in 1-1000 bichloride, and finally the skin wound closed by an absorbable subcuticular suture. (Catgut and silk are discarded because their twisted surfaces give many crevices for the lodgment of infectious material.) Such perfect apposition, with physiological rest, gives rapid primary union, and very little serum exudes. Therefore, the heavy bungling dressings in common use should be dispensed with and iodoform collodion used. There is nothing to come out, and the collodion allows nothing to enter.

Conservative Operation on Fibroids.—W. L. Burrage *(Bost. Med. Surg. Jour.,* April 5, 1900) states his belief that all operations on the uterus and its adnexa should be strictly conservative. During menstrual life the uterus should be removed only when it is the seat of ineradicable disease, and fibroids should not be so classed except when they cause excessive distortion, or are so extensive that their removal would obliterate the uterine cavity. In women near or past the menopause, hysterectomy is preferable to myomectomy, especially when the cervix is much diseased. In cases of small submucous tumors, the cervical canal should be slowly dilated during the twenty-four hours preceding operation. The tumor is removed by twisting, snaring or morcellation. With a subperitoneal or subvaginal tumor in the cervical region, enucleation may be accomplished through an anterior or posterior colpotomy without opening the peritoneum. With other subperitoneal tumors laparotomy is necessary. The tumor is removed through a lateral incision in its capsule, and the wound closed by a continuous catgut suture. Electricity relieves pain and hemorrhage, but exerts no lasting effect on the tumor. Removal of the adnexa often fails to relieve. Ligature of the uterine arteries often fails because of the free collateral circulation. The adnexa are often diseased in fibroid cases. They can be appropriately treated at the time of a myomectomy. When necessary hemorrhage may be controlled by an elastic ligature about the cervix. Myomectomy requires more skill and longer time for its successful performance than does hysterectomy, a fact not to be lost sight of in operating on weak and exsanguinated patients.

Diazo-Reaction in Phthisis.—The diagnostic and prognostic value of Ehrlich's diazo-reaction when applied to cases of tuberculosis is made the basis of an interesting article by M. Michaelis in the *Berliner klinische Wochenschrift* (March 26, 1900). In the first place he divides all diseases into four groups with reference to their susceptibility to the diazo-test. These four groups are: (1) Those in which the diazo-reaction practically never occurs, *viz.,* spinal diseases; chronic organic affections, such as nephritis, endocarditis, malignant tumors, etc. When the reaction does take place in these diseases it is due to some secondary bacterial process, such as ulceration of a carcinoma, decubitus in spinal diseases, and so on. (2) This group of diseases is characterized by a positive diazo-reaction, such as typhus abdominalis, measles. (3) This group only rarely reacts to the diazo-test and when this is positive it prognosticates severe types of disease and complications. Pneumonia and diphtheria furnish us with examples. (4) The last group embraces all the tuberculous processes. Here the diazo-reaction is of special importance, both as to diagnosis and prognosis. When in patients without temperature we get continuous diazo-reactions, we may be almost certain that we are dealing with tuberculosis. As a means of differentiation between ascites due to cirrhosis or tuberculous peritonitis this is invaluable. Occasionally, however, peritoneal carcinoma reacts also to the test. Positive reaction in meningitis likewise points to a tuberculous origin of the affection. In miliary tuberculosis the test never fails. In pericarditis and serous pleurisy the reaction differentiates between the rheumatic and the tuberculous origin. It is chiefly in pulmonary tuberculosis, however, that the reaction is of high prognostic value. Those cases of phthisis which give absolute, undisguised, positive reactions to the diazo-test are to be considered fatal as to prognosis. The reagent used by Michaelis is the original one of Ehrlich:

Acid sulfanilic 2,5.....
Acid muriatici 25:500.. } ..Reagent A.
Natrii nitrosi 0,5:100.....Reagent B.

Of Reagent A., 49 c.c. are taken together with

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1 ccm. of B. and well shaken. Then to about 10 c.c. of urine is added a like quantity of the reagent and again the mixture is well shaken. Finally, about one-eighth of the quantity of ammonia is added. Then, with positive results, a red coloration of the foam takes places. If the urine be allowed to stand for twenty-four hours a dark green precipitate will form. It is to be noted that the ammonia is to be added, not by drops, but the requisite quantity at once. The previous ingestion of certain drugs such as naphthalin, chysarobin, gallic acid, tannigen and tannalbin seems to prevent the reaction from taking place. The presence of a positive reaction is independent of fever, of the number of tubercle bacilli and of the quantity of the sputum. The diazo-test is rarely positive in mild cases of tuberculosis; and only when acute infections set in, which of themselves alone would give negative results, does the diazo-test give a positive reaction. Thus may we, in a seemingly benign influenza, pneumonia or pleurisy, be enabled to foresee a succeeding phthisis by means of a positive Ehrlich test. In those cases of phthisis with positive diazo-reaction, Michaelis has been able to prognosticate a fatal issue in the majority of cases within six months. In 167 heretofore observed cases of phthisis the following results have been drawn by him:

Negative diazo-reaction, cured 5, improved 44, unimproved 5, died 3; positive diazo-reaction, 15 improved, 16 unimproved and 80 died.

These statistics speak for themselves. Clemens also has shown that out of 100 of his cases of phthisis with fatal termination 87 gave continuous positive reactions with this test.

Operative Treatment of Spasmodic Torticollis.—From a review of the literature as well as a personal experience with 95 cases of spasmodic torticollis, E. Kalmus *(Beit. z. klin. Chir.,* vol. 26, page 189) gives the following conclusions. The spasm may be tonic or clonic. The muscles are involved in coördinated groups rather than singly. In their order of frequency they are, the sternomastoid, the trapezius, the splenius and the digastric. The deeper muscles of the neck, the posterior recti, major and minor, and the superior and inferior obliques, are less often involved. The four chief causes of the trouble are a nervous disposition, overuse of the muscles in occupation, cold and trauma. The prognosis is rather unfavorable except in hysterical and very recent cases. Sometimes the disease after progressing to a certain degree remains stationary, and sometimes it progresses until death results from exhaustion. Medicine is of little value except in hysterical cases; electricity better deserves a trial. Galvanism should be used on the affected side, and faradism on the sound side. The anode should be placed on the affected muscle. Other methods of treatment are massage, orthopedic apparatus and operation. Operation should always be followed by gymnastic exercises and suitable apparatus. The various operative efforts suggested are stretching, or division and ligature, or resection of the spinal accessory nerve; or resection of the cervical sympathetic; or of both of these nerves; or division of the various muscles affected. Perhaps the best results have been obtained by resection of the nerves of the affected muscles, although in certain cases it is better to resect both muscles and nerves.

Diphtheria Antitoxin.—Statistics of a large number of cases of diphtheria treated with antitoxin show beyond doubt that the mortality of the disease is greatly decreased by the use of antitoxin. Some writers advise as the initial dose of antitoxin in young children 1000 immunizing units, to be repeated every twenty-four hours if the symptoms are aggravated or stationary. In severe cases these same writers give from 1500 to 3000 units, as initial dose, and repeat it in twelve hours if the symptoms do not yield. Others give children under two years an initial dose of 1000 i. u., and those over that age from 1500 to 2000 i. u., to be repeated in from eighteen to twenty-four hours, with a third dose if necessary. Baginsky gives children under two years an initial dose of 600 i. u., if the case is mild, and 1000 i. u., if the case is severe. To children over two years old he gives in mild cases an initial dose of 1000 i. u. and in severe cases as high as 3000 i. u. He gives a second dose of from 600 to 1000 i. u. within twenty-four hours in any of the cases if necessary. The English authorities recommend an initial dose of from 6000 to 20,000 i. u. and not infrequently an initial dose of 50,000 units is given. The size of the English doses arouses a suspicion that the standard strength of the serum is low or that its strength is estimated differently than in other countries. J. H. Musser *(University Med. Mag.,* March, 1900) has used much smaller doses than any of those and demonstrates his method and the size of the doses he uses in thirteen cases which he reports. His method has been to give children under eight years of age an initial dose of 500 immunizing units, to be repeated at intervals of six hours if the fever does not fall, if the strength of the patient does not improve, or if the local manifestations are spreading. To children over eight years of age he gives 1000 i. u. as an initial dose, and repeats it at intervals of eight to twelve hours if necessary. In all of the writer's cases except one there was a critical fall of the temperature within a few hours after the initial dose of serum. In four cases the temperature fell to normal, and in the others the fall was at least 2° F. There is usually a transient rise of temperature after an injection of serum, but it does not last long, is without meaning and is followed by a fall to normal. In all the cases the serum slowed and strengthened the rapid weak pulse which was present. The strengthening influence of the antitoxin on the heart is especially shown in the case of a little girl who had most remarkable evidences of stenosis of the mitral and aortic valves, and in whom compensation had never been fully

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established. She passed through an attack of diphtheria with no signs of undue cardiac weakness. The membrane began to loosen in each case soon after the first injection of serum. Five of the cases the writer considered seriously ill, and their recovery due solely to the antitoxin. The initial dose in one case was 2000 and in three cases 1000 units, but in all the other cases it was below 800 units, in most of them 500 units. The subsequent doses varied from 200 to 1000 units. These small doses were followed by prompt and satisfactory results. Musser says this method implies recognition of the disease at the earliest moment possible and very close observation. He has not lost a case under this method, and the results obtained from the small doses seem to be as good as any reported.

Contagiousness of Erysipelas.—W. Respinger *(Beit. z. klin. Chir.,* vol. 26, p. 261) says that the actual extension of erysipelas from one patient to another can usually be traced. Epidemics of the disease disappeared with the dawn of antiseptic surgery. Idiopathic erysipelas is an obsolete term; and the idea of contagion through germs floating in the air is not supported by careful hospital experiments. These show that the streptococci of the disease are conveyed only in the purulent discharges. The scales of loose epidermis, or epidermis cut from an affected area, the sweat, and even the contents of blebs, as long as they were not purulent, were found to be free from streptococci. The conclusion is that infection proceeds from the discharge of erysipelatous wounds, and that these should be treated as other infected wounds, but that the patient should not be handled as though he were suffering from a contagious disease.

Anthrax.—Anthrax being a rare disease in this country, a case reported by Fred. D. Bird *(Intercolonial Med. Jour. of Australasia,* Feb. 20, 1900) is of interest. The patient, a man twenty-four years of age, a slaughter-man by trade, noticed that in one cow which he killed, the spleen was swollen and engorged with dark blood and that on cutting her throat there was much less bleeding than usual. The cow had slight epistaxis, but no blood-stained discharge from either rectum or vagina. The patient had seen these conditions in undoubted cases of anthrax. For four days the patient noticed nothing. On the fourth day he cleaned the trough into which the blood from this cow had drained. The man was positive that at this time he had absolutely no scratch, or cut, or lesion on his hands or forearms. Eight hours later he noticed a small red pimple, not painful, just above the right wrist in front. The next day this pimple had become a large painful bleb with a darkish center. At this time there was no swelling of the forearm and the man did not feel ill. In the evening the patient was very ill, temperature 101° F., pulse 100, face flushed, skin hot and dry, tongue moist and coated, and he had a persistent headache. There was no vomiting. The forearm and arm were tense with much swelling. The vesicle, at the point of inoculation, was about the size of a florin and was surrounded by much redness. The center of the vesicle was dark yellowish-gray, but it contained almost clear fluid. The joints of the arm were not affected. A severe lymphangitis extended along the inner and front aspects of the arm up to the axillary glands, which were very much enlarged and painful. The swollen axillary glands, and the lesion at the point of inoculation were entirely removed, and numerous deep incisions made in the arm and forearm. Pure carbolic was applied to the site of the initial lesion and the whole limb was invested in a large carbolic foment. The patient improved at once and at the end of a week was well. The rapidity of the onset of all the symptoms, and the marked absence of pain is especially to be noted. The diagnosis was confirmed by the microscope and cultures.

Operations on Glycosurics.—A. L. Fisk *(Annals of Surgery,* April, 1900) says the opinion is growing that, while glycosurics are not good surgical subjects, yet, with careful selection of cases and perfect asepsis, operative procedures are safe. Of course, in acute surgical diseases as appendicitis, strangulated hernia, etc., one must disregard the presence of sugar, although it adds greatly to the gravity of the prognosis. Sugar is very common in appreciable amounts as the result of toxic and traumatic lesions, and there is no reason to suppose that operations on such lesions are rendered more severe. The previously-diabetic are liable to various complications, therefore careful inquiry must be made into the past history, before allowing the prognosis to be biased by the mere presence of sugar in the urine. While, therefore, the presence of sugar in the urine is not an absolute contraindication to operation, it necessitates great care in the selection of cases, in the determination of the kind and extent of operation, and the strictest asepsis. Infection occurs from without and always as the result of error in technic. When infection does not occur wounds heal kindly but slowly, especially granulating wounds. The vascularity of tissues must be interfered with as little as possible. In gangrene of the extremities it is better not to use the Esmarch bandage in amputating, as it damages the vitality of the vessels.

Asthma in Neurasthenics.—In neurasthenics, nervous dyspeptics, suffering from habitual constipation, and feeling weak in spite of a good appetite and an appearance of being well nourished, the intensity and frequency of asthmatic attacks can be notably diminished and the general nervous condition improved by the administration of belladonna and nitrate of silver. For instance:

℞ Argenti nitrat.....gr. ii
Ext. belladonnæ.....gr. ii—v
Ext. gentianæ.....ʒ ss.

M. Ft. pil. No. XXX. Sig. One pill three times a day after meals.—*Golonbow.*

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SATURDAY, APRIL 14, 1900.

RHEUMATISM AS A DIAGNOSTIC SCAPEGOAT.

RHEUMATISM is a most convenient word. Like charity it covers a multitude of shortcomings, diagnostic as well as pathologic. It is easy to nod one's head, look wise and pronounce a painful affection rheumatism, and it is not difficult to outline a course of antirheumatic treatment. As the ordinarily prescribed antirheumatics are the coal-tar antipyretics and analgesics, which, in peripheral nerves, ameliorate painful conditions of the most varied kind, alleviation of pain almost invariably follows. A toothache may be greatly benefited by the same remedies, yet it will scarcely for that reason be considered rheumatic in origin. The therapeutic test for rheumatism, since we have no specific treatment for the condition is, of course, unreliable. Many of the painful conditions, both subacute and chronic, which are diagnosticated and treated as rheumatism are really manifestations of other pathologic conditions, and any rational therapy must be founded on more accurate diagnosis.

Some times the mistake of diagnosis has no serious consequences. The chronic condition underlying the painful affection is not rendered worse by the neglect to treat it directly. Not infrequently, however, delay is fraught with unfortunate results. When an incipient tuberculosis of the ankle or knee-joint is treated by rubbing and passive motion instead of by rest, when the referred pains of tuberculous hip-joint disease are misconstrued as rheumatic, harm always results. Fortunately, the subject has been so thoroughly impressed upon the practitioner by the appeals of the orthopedic surgeons that the condition of tuberculous joints is not often mistaken in our day.

The most fruitful sources of error now are undoubtedly flat- or weak-foot and the various occupation neuroses in the hand and arm. The tendency of weak-foot to cause a painful condition which is felt near the base of the big toe and around the heel, as well as in the ankle-joint, marks it out because of its diffuseness as almost surely rheumatic in origin. Usually the calf-muscles suffer in their function because of the spasm around the ankle and the loss of mechanical advantage by the alteration of the arch of the foot. This causes pain in the leg as high as the knee and confirms in the careless observer the diagnosis of rheumatism. Needless to say, no amount of antirheumatic treatment will relieve the symptoms.

Writers' cramp is but one of a series of spastic and painful conditions that may develop from improper use of arm-muscles. Pain in the muscles attached to the epicondyle has been noted from carrying an umbrella on a blustering day. The painful "skirt-wrist" from holding up heavy skirts is a familiar example in these days. Various neurotic conditions of the arm for which there is no localized anatomical basis have been classed frankly as brachyalgias. All of these conditions are liable to exacerbations in damp weather, somewhat as dental nerves that have once been affected are more sensitive while dampness prevails.

Most of these conditions require a tonic rather than the depressant antirheumatics. Most of them are benefited by local measures. Weak-foot requires the special orthopedic treatment suited to the condition. The pain due to the improper use of arm-muscles can only be overcome by the correction of bad habits in their employment. In a word, definite diagnosis of the exact parts affected by the painful condition is absolutely necessary, not only to discover the true character of the affection that is complained of, but also to assure the rational therapy of the condition.

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NO EXPECTORATION, NO TUBERCULOSIS.

THE Municipal Council of Paris has recently passed an ordinance prohibiting expectoration upon the sidewalks and streets of that city and imposing appropriate fines and imprisonment. The *British Medical Journal* in commenting upon this and urging the London County Council to take similar action enforces its argument by the statement that "In many of the principal cities of the United States spitting upon the sidewalks or pavements is forbidden and the prohibition is rigidly enforced."

This to us is a most pleasing bit of intelligence or rather it would be, were we permitted to lay this flattering unction to our souls. But candor compels us to admit that our English cousin has, we fear, taken the will for the deed and rather overstated the actual situation. 'Tis true that such laws are upon our statute books but, alas, in shame be it confessed, their observance consists more in the breach than in the doing. We have not been wanting in convincing orators who have depicted the dangers of the dissemination of tuberculosis by means of the sputum in such glowing colors as to crystallize conviction into statutes and ordinances, but the hygienic sense of the people has not yet become sufficiently enlightened to uphold their enforcement. Indeed the scenes that are constantly witnessed upon the streets of New York are enough to bow the head of every intelligent citizen in shame and humiliation. Upon a breezy morning recently a policeman sought protection from the chilling blasts in one of the receding angles of the Dewey Arch and, as if to hedge himself about from all intrusion, with his back to the corner, he erected upon the pavement a geometrically constructed barricade of expectoration, reaching in a circle from one protruding angle of the base of the Arch to the other. The process was sufficiently disgusting in itself, but when to the sight of it was added the reflection that the perpetrator was an officer charged with the enforcement of the very law he was so complacently violating, the hopelessness of the situation became oppressive. But the sequel was if possible still more disgusting. Toward evening of the same day, after the sputum had been dried to a powder in the sun and air, a woman, in the guise of a fashionably dressed lady, with her arm twisted around in the present characteristic fashion so that she might raise her skirts from the ground, was standing, waiting for a trolley car, directly over the spot beautified in the morning by the geometrically arranged sputum. The car passes a little beyond its expected stopping-place, and the lady in her eagerness to get on board lets go her grip upon her skirts and makes a run for the car. A more perfect sweeping the pavement could not have had. The dust rolls up in masses beneath those skirts and finally bursts out at the sides in such clouds that the passer-by, who had observed the performance of the morning, held his breath in self-protection and waited for the dust to subside. The woman carried the most of it away, however, in the meshes of her dress and skirts, to be shaken out and disseminated about the rooms of her home. There is undoubtedly no more fruitful source of tuberculosis infection than in the process above described—a procedure transpiring daily, yes, hourly, upon the streets of thousands of cities all over the civilized (?) world. And yet we wonder that tuberculosis is so prevalent, that it seeks its victim in such unexpected places and causes one-seventh of all the deaths that claim mankind.

THE PATHOLOGICAL INSTITUTE.

THE New York State Legislature has adjourned. During the final days of the session legislation was enacted with such startling rapidity that it requires no little time to take observations and see where we are. In the appropriation bill we find that the Pathological Institute has escaped the destroyers's hand, but it has escaped as if by fire. For we read: "For the Pathological Institute, twenty thousand dollars, or so much thereof as may be necessary, no part of which shall be paid for rent." As the Institute has no home, save such as it acquires by "rent," the question arises: what is it going to do with itself? The State Commissioners in Lunacy have prepared this bill. Is it their intent to kick the Institute into the street? Or do they think that pathological institutes can live on a name regardless of a habitation? We await some word from that silent but mysterious body.

ECHOES AND NEWS.

NEW YORK.

Governor Roosevelt's Nominations.—The Senate confirmed on April 5th the following nominations made by the Governor: Dr. George Elmer Gorham of Albany, Hulbert E. Brown of Mt. Morris, Anson P. Thompson of Ellisburg and Mary E. Joy of Syracuse as managers of the

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Craig Colony for Epileptics; Amory B. Houghton of Corning as manager of the Willard State Hospital; Charles F. Howard, M. D., of Buffalo as a member of the State Reformatory at Elmira.

Appointments at Roosevelt Hospital.—The trustees of Roosevelt Hospital at their recent meeting divided the surgical service of that institution and appointed Dr. R. F. Weir and Dr. W. T. Bull Visiting Surgeons. Both of these men are at the present time Visiting Surgeons to the New York Hospital and Professors of Surgery at Columbia University. The appointments will take effect April 16th.

Association of Military Surgeons.—The Association of Military Surgeons of the United States will meet at the New York Academy of Medicine May 31st, June 1st and 2d, 1900. The members of this organization are drawn from the national services of the Army, Navy, and Marine Hospital, and from the National Guard and militia of the several States.

Leper at Large.—Charles Serrattero, a Sicilian, feeling unwell, called at Bellevue Hospital for treatment on April 7th. After a careful examination the diagnosis of leprosy was made. He could not be received in Bellevue, so he returned to his home at 123 Elizabeth Street.

The Cartwright Lectures of the Alumni Association of the College of Physicians and Surgeons, Columbia University, for 1900, will be delivered at the New York Academy of Medicine on April 18th, 24th, and 26th, at 8.30 P. M., by Professor John G. Curtis, M.D., of Columbia University. Subject: "The Discovery of the Nerves and of Their Function."

Contagious Diseases.—For the week ending April 7, 1900: Measles, 715 cases and 31 deaths; diphtheria, 240 cases and 32 deaths; laryngeal diphtheria (croup), 22 cases and 15 deaths; scarlet fever, 164 cases and 14 deaths; chickenpox, 23 cases; tuberculosis, 327 cases and 207 deaths; typhoid fever, 11 cases and 7 deaths; cerebro-spinal meningitis, 14 deaths; total, 1502 cases and 320 deaths.

Medical Legislation.—The bill providing for the establishment of a hospital in the Adirondacks for incipient tuberculosis has passed both houses of the Legislature, but the amount of the appropriation was reduced from $200,000 to $50,000. The New York State Medical Association was granted a charter. The bill appropriating $70,000 for the construction of a building at the quarantine station in New York Harbor for the detention of passengers was concurred in by both houses.

A Case of Burial Alive.—A report comes from Rochester, N. Y., that a well-known resident of Sandy Creek, a neighboring village, died January 4th after several weeks' illness from scarlet fever and was buried in the local cemetery. On March 31st the father of this young man died, and in order to make room in the family plot, it became necessary to move the body of the son. Upon disinterring the casket, the glass front of the coffin was front to be shattered in pieces, the bottom was kicked out, and the sides were sprung. Upon removing the lid, it was found that the body was resting on its face, the arms were bent at the sides, and in the tightly clinched fists were handfuls of hair, showing that a terrible struggle had taken place.

Tenement-House Bill Signed. — Governor Roosevelt signed on April 4th the bill authorizing him to appoint a commission to investigate the tenement-house problem of New York and Buffalo, and providing that the commission shall report to the next Legislature a new code of tenement-house laws. An appropriation of $10,000 is made for the expenses of the commission.

Old New York Doctors.—Dr. Sidney H. Carney, Jr., the new Recording Secretary of the New York Historical Society, has entertained its members with an interesting paper on physicians in New York one hundred years ago. The city contained several prominent physicians at that time, but judged by modern standards, medicine was in a very crude state. In 1800 there were only five medical schools in the United States. The first was at Kings (now Columbia) College, established in 1767; the second at Philadelphia, in 1768; the third at Cambridge, Mass., 1781; the fourth at Dartmouth College, N. H., in 1798, while a fifth was instituted the following year in Lexington, Ky. The first students to receive medical degrees in America were Samuel Kissam and Robert Tucker. They were conferred by Kings College. Among the professors in 1800 were Drs. Richard Bailey, John R. B. Rodgers, Wright Post, William Hammersley, Samuel L. Mitchell, and David Hossack. There were thirty-four students that year, an increase of thirteen from 1799. Dr. Bailey died in 1801 from yellow fever, contracted while discharging his official duties as Health Officer of the Port. Dr. Wright Post was considered the most noted surgeon in the city in 1800, with the possible exception of Dr. Richard Kissam. Dr. Hossack was graduated from Princeton, received his medical degree in Philadelphia in 1791, and then studied abroad. Upon his return to New York he brought with him the first cabinet of minerals ever seen in America, as well as a collection of plants. He held several professorships in Columbia, and established and maintained for several years the well-known Elgin Botanic Garden, situated between what are now Forty-seventh and Fifty-first Streets, and running from Fifth Avenue to within one hundred feet of Sixth Avenue. Some twenty acres were under cultivation, and it is related that he always closed his spring course of lectures with a strawberry festival in order that the students might see "that we are practical as well as theoretical." He was one of the founders of the New York Historical Society in 1804, and his house was the resort of the learned of all parts of the world.

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Errata.—In Dr. Abbe's article which appeared in our last week's issue the percentage of cases of pure carcinoma of the breast that had reached the three-year limit without recurrence, after operation, was stated at 25 per cent. This should have read 50 per cent.

PHILADELPHIA.

Reception to Dr. Martin.—Dr. John C. Da Costa, President of the Obstetrical Society, tendered a reception to Dr. F. H. Martin of Chicago, April 5th. The reception followed the meeting of the Society at which Dr. Martin gave his address and was attended by the prominent obstetricians of the city.

Health Report.—The deaths in the city for the week ending April 7th were 732, an increase of 53 over the previous week and of 143 over the corresponding week of last year. Contagious diseases: Diphtheria, 86 cases, 22 deaths; scarlet fever, 73 cases, 6 deaths; typhoid fever, 89 cases, 11 deaths. Influenza was reported as being the cause of 42 deaths.

Smallpox Report.—The March report of the State Board of Health gives the statistics of smallpox for the month as 33 cases and 3 deaths. These cases were in eleven districts and widely scattered throughout the State. Philadelphia had three cases.

University Surgical Teaching.—The University of Pennsylvania is to have a professor of surgery and two professors of clinical surgery, which practically creates a new chair in the Faculty. It is rumored that Dr. J. William White, Clinical Professor, is to be made professor of surgery in the place of Dr. John Ashhurst, Jr., who lately resigned.

Jefferson Faculty Changes.—Two additions have been made to the major Faculty of the college. Dr. F. X. Dercum, formerly Clinical Professor of Diseases of the Nervous System has been elected Professor of Neurology, and Dr. J. Chalmers Da Costa, Clinical Professor of Surgery, was elected Professor of the Principles of Surgery and of Clinical Surgery.

Nurses' Home.—The Pennsylvania Hospital has secured ground on which will be erected an elaborate home for the nurses of the institution, fifty of whom are now occupying temporary quarters. The hospital is constantly expanding, 28,000 patients being cared for during the past year.

Obstetrical Society.—At the meeting of April 5th the Society was addressed by Dr. F. H. Martin, of Chicago, his topic being "Removal of the Bladder with or without Hysterectomy in Order to Extend the Possibilities of Surgery for Malignant Disease of the Pelvis." The operation is a formidable one but is justifiable when the condition in the pelvis is more formidable. The points considered by the speaker were, first, would the removal of the bladder make a more extensive operation possible; second, the immediate difficulties to be overcome in such removal and its remote effects; third, the operative technic. In cancer of the uterus involving the bladder the removal of the uterus is only a makeshift. By the operation suggested the bladder, the urethra, and an inch of the ureters, can be removed in addition to the uterus. The immediate difficulty is the disposal of the ureters. The rectum or sigmoid flexure is considered the best place to divert them, as it offers reservoir room, emptying power, and voluntary control of the reservoir. The objection to this has been the danger of ascending urethritis. Experimental work upon more than 60 dogs has demonstrated that the requirements of the occasion will bring about an increased resistance on the part of the ureters such as is seen in cases of exstrophy of the bladder. Experimental work on animals is unsatisfactory, however, owing to the changed conditions of gravity, inability to keep the rectum clean, and to retain catheters in the ureters for several days after the operation. In the transplantation of the ureters into the bowel the ends of the ureters are approximated for a distance of from 2 to 3 cm. and buried for an inch or more in the muscular coats of the bowel. The fecal mass as it passes this place squeezes out the contents of the ureters in the direction of the fecal current, and after it passes the urine spurts forth and thus upward infection is rendered less liable. The fear of absorption of the urine from the bowel is not well founded and it is believed that the sphincter will retain the urine. The extirpation of the bladder and uterus is advised in cases where cancer has involved either organ and extended to the other. All diseased tissue that can be removed should be taken away even if this does not include it all. Preparation should be made for a desperate operation, transfusion used, and the best assistants secured. The conclusions are: (1) The operation is justifiable under certain desperate circumstances. (2) The ureters should be transplanted into the rectum. (3) The amount of pelvic tissue removed is materially increased. (4) The operation should not be undertaken by one who does not thoroughly understand the technic and who has not done considerable experimental work upon animals. In the discussion of this paper Dr. E. E. Montgomery considered the method of ureteral transplantation as a great advance in surgery, but thought the mortality too great to justify extirpation of the bladder. Where malignant disease of the uterus has spread to the bladder the parametral tissues are so involved that even this operation would probably not be successful. If the patient's life should be prolonged for only a short time with the probability of recurrence of the disease, an operation of such gravity would not be indicated. Dr. John Clark stated that the paramount point is the removal of the local involvement. If the disease has spread to the lymph glands it is incurable. When it has gone so far that removal of the bladder is indicated, the anemia and ca-

chexia of the patient would contraindicate such an extensive operation.

CHICAGO.

Rush Faculty Changes.—The office of vice-president is established, and Dr. Henry M. Lyman, Dean of the Faculty, in view of his long connection with the college and the valuable services rendered is appointed to this office. Dr. Frank Billings, Dean of the Senior class is promoted to the deanship of the Faculty. Dr. John M. Dodson and Dr. Frederic S. Collidge are reappointed Deans in charge of the Freshman class. The resignation of Dr. Norman Bridge as Professor of Medicine is accepted and he is appointed Emeritus Professor of Medicine. Dr. John M. Dodson has been appointed to the Professorship of Pediatrics; Dr. D. R. Brower to the Professorship of Mental and Nervous Diseases.

Chicago Medical Society.—At a meeting, held April 4th, Dr. Geo. E. Shambaugh presented a case of unilateral chronic suppuration of the frontal, maxillary and sphenoid sinuses with no complications. The patient, twenty-two years of age, dated her trouble back ten years, when, after an attack of typhoid fever, she began to have a purulent discharge from the right side of the nose which has continued ever since. During this time she has suffered a great deal from headache and from dry pharyngitis and has been unusually subject to attacks of acute rhinitis. When first examined a mass of polyps completely filled the right side of the nose. These polyps and a degenerated middle turbinated body were removed, when creamy pus was seen oozing from the middle meatus of the nose, showing that some of the accessory sinuses were affected. Two weeks later the patient was again examined, when, after thoroughly cleaning the right side of the nose, pus was seen to appear at three separate points. These points proved to be the normal openings into the sphenoid, the frontal and maxillary sinuses. A soft silver cannula, curved at the proper angle, was introduced into the maxillary and frontal sinuses through their normal openings and pus was washed out from each. The case was one of simple chronic suppuration in these three accessory sinuses, with no complications and no involvement of the overlying structures which would point to disease of the sinus, and the diagnosis was made by direct intranasal methods. A skiagraph of the case was exhibited, showing the position of a probe passed through the frontonasal duct into the frontal sinus.

Double Cryptorchism Complicated by Scarlet Fever.—Dr. Edward H. Ochsner reported a case and exhibited a patient who was operated upon for double cryptorchism and who, twenty-four hours later, developed scarlet fever. The patient, a boy, thirteen years of age, whose family history and previous history were good, was operated upon for double cryptorchism on January 26, 1900. On the day before the operation the patient was perfectly well except for a very slight cough, which was attributed to a slight cold. The heart and lungs were normal.

The ordinary operation was performed. Patient vomited only once or twice from the anesthetic, but coughed a great deal during the following night and did not sleep well. Apart from this he did well until eighteen hours after the operation, when his temperature quite suddenly rose to 101° F. and the pulse to 102. Thirty hours after the operation the temperature was 104 and the pulse 120. Patient had a peculiar strawberry-tongue and a very congested throat. The following morning, forty-eight hours after the operation, patient was covered with a scarlet rash. Thirty-six hours after the operation Dr. W. J. Class made a culture from the patient's blood and obtained an uncontaminated growth of the Class diplococcus scarlatinæ. Nine days after the operation the patient's temperature and pulse were practically normal, but typical scales began to develop and continued to exfoliate for several weeks. From these also the diplococci were cultivated. The patient made an uneventful recovery. The case is reported in order to emphasize the importance of a bacteriologic examination in all cases of so-called septic rashes, many of which are undoubtedly exanthemata.

The Bone-Coupler in Intestinal Resection.—Dr. Jacob Frank reported a case of double pyosalpinx with tubo-ovarian abscess complicated with such firm peritoneal and intestinal adhesions that resection of the bowel was necessary. The intestines were found to be very friable and infiltrated, so that it was decided to do an intestinal resection. The anastomosis was effected by means of the Frank decalcified bone-coupler, 1⅛ inches in size, was used, having determined the measurement by means of the Frank enterometer. The operation was completed by draining with a Mikulicz and a glass drain. The piece of rubber tubing was passed on the fifth day following the anastomosis. The patient left the hospital five weeks after the operation.

GENERAL.

Canadian Medical Association.—The next meeting of this society will be held at Ottawa on September 12, 13, and 14, 1900. This will be the centennial meeting of the Association and an effort is being made to properly celebrate the occasion. It is expected that Dr. Edmund Owen, of London, England, will deliver the address in surgery.

The Plague at Honolulu.—It is estimated that the cost of suppressing the plague at Honolulu will amount to $2,000,000. Heavy expense has been incurred in building detention camps and supplying provisions for the people detained. It was necessary also to provide accommodations for those who lost their homes by the fires. March 31st was the sixth day since the appearance of the last case of plague and the Board of Health expressed confidence that they had reached

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the end of their contest. Since December 12th there had been seventy cases of plague, of which sixty died.

The Army Hospital Ships.—It appears that neither of the two army hospital ships is available for bringing home sick soldiers from the Philippines, and the War Department is arranging to have such service temporarily performed by the transports plying regularly between Manila and San Francisco. The "Missouri" has been practically condemned and it is possible that she may not be retained in the military service. The "Relief" is now in the Philippines. Owing to her limited coal capacity, it is not deemed expedient to send her across the Pacific with a load of invalids.

Hydrogen Solidified.—Professor Demar solidified hydrogen before the Royal Institution in London on April 7th. He surrounded a tube containing liquid hydrogen with liquid air, to prevent the ingress of heat, and then by means of a powerful air pump transformed the liquid hydrogen into a white, opaque solid.

Trained Nurses Wanted in Cuba.—Application for trained nurses of both sexes to go to Cuba has been made by St. J. Greble, Assistant Adjutant-General and Superintendent of Hospitals and Charities at Havana. The applicant desires to place in each of the hospitals and orphan asylums in Cuba which contains more than one hundred inmates, a trained nurse "who will be able to straighten out the present deplorable condition of most of these institutions."

Dissection in New Jersey.—Dr. C. F. Adams, of Trenton, N. J., writes that the statement made in the issue of the MEDICAL NEWS, March 24th, that dissection is prohibited in New Jersey is not strictly correct. Dr. Adams was instrumental in having a law passed by the Legislature five years ago regulating the dissection of dead bodies. By its provision the bodies of persons dying in public institutions may be utilized as dissection material by certain societies definitely organized for such purposes. Upon the passage of the law a society was immediately organized and incorporated, rooms were secured, and considerable work accomplished. The society is still in existence and is able to secure an abundance of material without difficulty.

Insanity in the Army.—Secretary Root has had prepared a statement which fully disproves the many charges that have been made as to a large percentage of insane and suicide cases in the army. It shows a smaller rate of insanity among the troops in the Philippines than in the regular army for ten years. From July, 1898, to March 20, 1900, thirty-five cases of insanity have been reported in the Philippines. During this period the mean strength of the force under General Otis was 32,000 men. Based on this strength the rate of insanity for twelve months was 31.3 cases. The mean strength of the regular army for the ten years ending July, 1898, was 29,000 men with a rate of insanity of 33.1. Seven officers and 22 enlisted men committed suicide in the Philippines between April 11, 1899, and March 27, 1900.

Water Filtration.—The *Scientific American* in commenting upon the results of the recent instalment of the filtration beds in connection with the water supply of Albany, N. Y., says: "The disease directly traceable to the sewer polluted water of the Hudson was typhoid fever, the death-rate from which the city of Albany for nine years ending 1898 had averaged 85 per annum. During the first four months in which the filters have been in operation, 7 deaths from this cause have been reported. During the corresponding interval of the nine years ending 1898, the average number of deaths was 24; so that the filtration of the water has reduced the deaths from this cause in the ratio of 24 to 7. The filtration plant at Lawrence has reduced the typhoid fever death-rate in that city from 11.31 to 2.54. The filtration plant in the city of Hamburg, Germany, was put in operation in 1895; during the five years previous to that date the average typhoid death-rate was 4.72, since that date it has fallen to .72. Since the opening of the filtration plant of the city of Mount Vernon, N. Y., in 1894, the number of deaths from typhoid has decreased over 76 per cent. The average cost of operating the filters at Mount Vernon, including the laboratory work, is $1.67 per 1,000,000 gallons."

The American Gastro-Enterological Association.—The third annual meeting will be held in the banquet hall at The Shoreham, Washington, D. C., Tuesday, May 1, 1900. The following is the provisional program:

1. The Occurrence of Mould in the Stomach and Its Probable Significance. Max Einhorn.
2. Sugar, as Such, in the Dietary of Dyspeptics. Wm. Gerry Morgan.
3. Concerning the Nature of the Biologic Cell Processes in Malignant Neoplasms, and Their Significance for the Early Diagnosis of Cancer of the Stomach. J. C. Hemmeter.
4. The Appendix and Cecum from the Standpoint of the Gastro-Enterologist. A. L. Benedict.
5. Feeding the Sick. A. P. Buchman.
6. Starvation versus Feeding in Diseases of the Stomach—Illustrated. Frank H. Murdoch.
7. A Case of Cancer of the Esophagus; perforation into the left Pleura; death from Pyopneumothorax. Exhibition of Specimen. Julius Friedenwald.
8. Some Clinical Observations on the Position and Topography of the Stomach. G. W. McCaskey.
9. Remarks on Stenosis of the Pylorus. Henry W. Bettman.
10. Report of an Interesting Case. E. G. Cutler.
11. Mechanics of Digestion. F. B. Turck.
12. Epigæa. Charles D. Aaron.

Medical War News.—What appears to be the first serious reflection upon the sanitary man-

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agement in the South African war is the recent outbreak of typhoid fever among the Boer prisoners on shipboard off Simonstown. Over one hundred prisoners are prostrated with the disease, many deaths have already occurred, and fresh cases are developing daily. Nowhere is the water supply so absolutely under control and easy of inspection as upon shipboard, and in view of the well-known fact that some of the South African towns are not above suspicion in regard to typhoid and a polluted water supply, every precaution should certainly have been taken to guarantee the purity of drinking-water taken on board the prison ships. On the other hand, it may be quite possible that the prisoners were already infected before being brought to Simonstown. Enteric fever has certainly been rife in most of the Boer laagers, due to the carelessness in infecting their sources of water supply. The matter should be strictly investigated, for an outbreak of a preventable disease like typhoid among the prisoners of war of a great and enlightened nation is, to say the least, unfortunate, especially when contrasted with the absence of any serious disease among the prisoners at Pretoria.

The hospital ship "Maine" has been ordered home to England, with a consignment of invalids on board. This is occasioning some surprise, and it seems a pity in view of the rapid progress made by the wounded and fever cases in the sea breezes at Durban that she should not be allowed to remain as a floating hospital. Transports are returning almost empty each week and could comfortably carry back cases of delayed convalescence and hopelessly chronic affections. The immediate reception and care of cases in the acute stage seems to be a more appropriate service for hospital ships, instead of being employed as "mere beasts of burden" for the long voyage home. It is quite possible, however, that the "Maine" has on board a sufficient number of patients who could not safely be transferred to the transports, or trusted to their crude hospital accommodations to bring them home in comfort.

Dr. Jameson, the leader of the famous raid into the Transvaal territory, has recently arrived at Cape Town seriously ill. The presence of pneumonia in increasing severity and prevalence among the rank and file of the British army is becoming serious. The approaching winter season and great elevation of the country are productive of cold nights, against which proper provision has not been made.

American Climatological Association.—The seventeenth annual meeting of the Association will be held in the banquet room of the Arlington Hotel, Washington, D. C., May 1, 2, and 3, 1900. The program is as follows: President's Address, Abraham Jacobi, New York.

The Modern Physician's Duty to His Tuberculous Patients. Frederick I. Knight, Boston.

The Construction and Management of Small Cottage Sanatoria for Consumptives. Arnold C. Klebs. Chicago.

A Report of Certain Cases of Tuberculosis Which were apparently due to the Nature of the Soil. Richard Cole Newton, Montclair, N. J.

The Educational and Legislative Control of Tuberculosis. Charles Denison, Denver.

Some Phases of the Tuberculosis Problem in Colorado. Sherman G. Bonney, Denver.

Some Personal Observations on the Effect of Intrapleural Injection of Nitrogen Gas in Tuberculosis. H. P. Loomis, New York.

Bacterio-Therapeutics, with Especial Reference to Tuberculosis. E. R. Baldwin, Saranac, N. Y.

(To be read at the general meeting of the Congress, on Tuesday afternoon, May 1st.)

Subsequent History of Patient Apparently Cured by Antitubercle Serum. J. Edward Stubbert, Liberty, N. Y.

Stomach Conditions in Early Tuberculosis. Boardman Reed, Philadelphia.

The Phlebitis of Advance Phthisis, with Report of Cases of Phthisis following Abscesses of the Hand. R. G. Curtin, Philadelphia.

Report of a Case of Spleno-myelogenic Leucemia with Tuberculosis, with Remarks on Blood Examination in Tuberculosis. H. L. Elsner, Syracuse.

The Hydriatic Treatment of Tuberculosis. J. H. Kellogg, Battle Creek, Mich.

Petroleum Oil in the Treatment of Phthisis. W. D. Robinson, Philadelphia.

The Inadequacy of the Physical Signs as Indicating the Gravity of Pneumonia. Andrew H. Smith, New York.

The Blood Changes in High Altitudes. S. E. Solly, Colorado Springs.

The Bath in Gout. Charles C. Ransom, New York.

A Case of Mural Endocarditis. Harold Williams, Boston.

Exercises Suitable for Children Suffering from Heart Disease. J. Madison Taylor, Philadelphia.

CORRESPONDENCE.

OUR LONDON LETTER.

[From Our Special Correspondent.]

London, March 31, 1900.

FIRST ANNUAL MEETING OF THE POLYCLINIC—DEFEAT OF COUNTY COUNCIL WATER BILLS—A "JUBILEE" MEDICAL DIPLOMATIST—FAREWELL ADDRESS OF SIR WILLIAM GAIRDNER—CANDIDACY OF PROFESSOR OSLER—AWARD OF ARBITRATOR IN THE "PHOSSY JAW" HEARING.

The first annual meeting of the London Medical Graduates' College and Polyclinic has just been held and a most encouraging report of progress presented. Sir William Broadbent, the President, announced that 607 members had been enrolled, a commodious and centrally-situated building purchased and equipped, and five course of lectures, classes, and clinics, held dur-

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ing 1899. The attendance at the public consultations had been excellent, reaching as high as nearly 400 per week, and an abundant supply of interesting and, in many instances, rare and unusual cases had been secured. Practitioners of medicine were coming to appreciate and avail themselves extensively of these opportunities for securing expert opinions in the cases of patients who were too poor to afford a consultant's fee.

As the sessions of the College were only opened in May last, the financial statement is naturally large one of expenditure, but a gratifying number of donations have already been received, both from the profession and the public, a small but increasing income already secured, and the future prospects of the infant institution are most favorable, considering the extreme youth and slowness with which the conservative British mind "catches on" to a new departure. It has had to run the gauntlet of strenuous opposition from all the great teaching hospitals and their schools, and from the great body of consultants in London, but this is now dying down as the aims of and necessity for the College are becoming better understood, and the fact that it has not only survived, but steadily prospered in the face of it, is a proof of its vigor and vitality which renders its future practically assured.

After a prolonged debate Parliament has again refused to do anything for the relief of London in the matter of its water supply. Both the bills put forward by the London County Council, the first for purchase by the Council of the existing plant, and the second for securing a supply from Wales, were defeated. This leaves the metropolis at the mercy of the present companies and the vagaries of the tiny Thames and rivulet-like Lea, with the vague recommendation by the late Royal Commission of purchase upon exorbitant terms, by some nebulous body which is yet to be created but which is *not* to be the County Council, as the only prospect for future relief. This is the third time a similar bill has been presented by the Council and defeated, but, as the majority against it this time was much smaller than was expected, three or four more years may possibly see it passed by Parliament. The control of the two great English-speaking world-capitals, New York and London, by outside legislative bodies, although it has its advantages, is a terrible drawback in the main.

The phenomenal security and length of tenure of all positions connected with the English diplomatic service was illustrated in a member of our own profession this week by the death of Dr. Edward D. Dickson who for *forty-four years* had held the post of Physician to the British Embassy at Constantinople; and he had been physician to other Consulates for *nineteen years* before that. Dr. Dickson was an energetic and trusted servant of the Government, which had availed itself of his services as commissioner and delegate to a number of boards and conferences, political, as well as medical and sanitary, notably the Conference upon Asiatic Cholera, in 1866, and the Ottoman Quarantine Tariff Commission in 1867. But think of retaining official connections with the diplomatic service since the accession of Queen Victoria, sixty-three years, and in a foreign land at that!

By a strange coincidence, the same session in which the Chair of Medicine in Edinburgh became vacant by the death of Sir T. Grainger Stewart sees the same chair in the sister university of Glasgow vacated by the voluntary resignation of Sir William Gairdner. This was formally intimated to his class in an almost pathetic little farewell address in which he stated that, although his enjoyment of the stimulating work of teaching was as keen as ever, the difficulty of keeping in touch with the enormous output of literature representing the rapid advances in all departures of recent medicine, especially in that of bacteriology, was fast becoming an impossibility because of his failing eye-sight, and he therefore felt that he ought to resign in favor of "at least a younger pair of eyes and, perhaps, a younger brain."

Sir William Gairdner's intention to resign was privately intimated some weeks ago, but it will be surprising if the Court of the University accept his resignation. The very fact of his being capable of withdrawing upon such noble and self-sacrificing grounds stamps him as simply invaluable to any teaching body. A veteran teacher of his long-proved ability and immense experience who, with the modesty of true greatness, is conscious of the limitations of age, is worth a dozen laboratory-made, up-to-date young prodigies, full of the boundless confidence of youth.

The telegram of Professor Osler to the *British Medical Journal*, stating that he is not a candidate for the Chair of Medicine at Edinburgh, will be received with general regret by the profession here. His work is as widely known and as highly admired here as at home, and he would have been most cordially welcomed as a permanent addition to the ranks of British medicine.

The award of the arbitrator, appointed by the Home Office to hear the objections of the manufacturers to the rules passed by the last Parliament for the prevention of phosphorus-poisoning in the match industry, has resulted in a substantial sustaining of the regulations as they stand. These provide for the regular and frequent inspection of the jaws and teeth of the workers by both a dentist and surgeon, as the evidence of all witnesses was overwhelming that practically the sole risk of "phossy jaw" lay in decaying teeth and ulcerated gums. Careful provision is to be made for fan-ventilation of the rooms used for the dangerous processes, mixing the paste, dipping and drying, and these are to be separate from the rest of the factory and, so far as possible, open to the sky. Employers are to provide overalls for all workers in the dangerous branches and these are to be washed every week and removed before eating, while a fixed minimum of lavatory, dining-room, and cloak-room accommodation is to be provided. That preven-

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tion is practicable and possible was abundantly proved by the experience of one factory, that of Bell & Company, where, by taking most of these precautions, only one case of "phossy jaw" had occurred in thirty-three years, and we may look forward with hopefulness to seeing this blot upon our industrial system effaced in the near future.

TRANSACTIONS OF FOREIGN SOCIETIES.

German.

A CASE OF DIVIDED STERNUM—HEMORRHAGIC EROSIONS OF THE STOMACH—SIX SUPERNUMERARY BREASTS—NEW METHOD OF DEMONSTRATING THE ACCESSORY NASAL CAVITIES—EFFECT OF GELATIN INJECTIONS ON AN ANEURISM OF THE AORTA.

At the British Medical Society, February 21st, R. Virchow presented a man aged forty years whose sternum was completely divided through the long axis by a fissure. The pulsations of the heart transmitted through the overlying skin were plainly visible. This severe congenital anomaly gave the patient no disturbing symptoms.

C. Pariser spoke of hemorrhagic erosions of the stomach, which usually occur in large numbers and are not confined to any one part of the stomach. They may lead to death by hemorrhage. Thus far the diagnosis has been made only at autopsy. The symptoms are these: The patients complain of very severe pain about half an hour after taking any food. The pain is described as a burning-hot one, but not confined to any part of the stomach; nor is it cramp-like. It lasts about two hours. It ceases at once if the stomach is irrigated. Irrigation, when the stomach is empty, will bring out a water faintly tinged with blood, and containing a few shreds of mucous membrane. Sometimes the amount of hydrochloric acid is reduced; sometimes it is above normal. The pain is caused by the contact of gastric acids and those in the food with the ulcerated areas in the stomach. Through fear of pain patients get into the habit of eating very little and so grow thin. The affection is not an independent one but is a complication of chronic gastric catarrh. The erosions heal without leaving a scar. They rarely deepen into a chronic ulcer. The best treatment is irrigation of the stomach with a solution of silver nitrate, 1-2000, 1-1500, or 1-1000. Two pints should be introduced, one after the other, and when the second has been drawn off the stomach should be washed with salt solution. Dietetic treatment is invaluable. The food should be absolutely bland. If these measures do not suffice the patient should be put upon the same treatment as is followed in gastric ulcer.

Benas showed a patient February 28th who had three pairs of supernumerary breasts, situated above and externally to the normal breasts and in three stages of development. The lowest two were simply pigmented areas, the next possessed rudimentary nipples, and the third and largest pair presented breast glands and nipples from which milk flowed in abundance. The glandular tissue was situated well up in the axilla. When lactation ceased the extra breasts grew smaller and stopped secreting milk. This is an example of atavism. Similar epithelial inclosures have been found in the embryo. Sometimes heredity seems to play a part.

March 7th, G. Bruhl exhibited a number of skulls which he had prepared by a new method in order to show the size and position of the cavities which communicate with the nose. The bones were made transparent by decalcification and soaking in xylol, and the para-nasal cavities were filled with "Wood's metal." The mean capacity of the frontal sinus was found to be 2.8 ccm., that of the antrum in the superior maxilla, 10.5 ccm., and that of the sphenoidal sinus, 1.9 ccm. The total volume of all the accessory cavities is about 45 ccm., which is a sufficient explanation of their importance in diseases of the nasal apparatus. This method of demonstration of these cavities is far superior to any at present in use.

At the Union for Internal Medicine at Berlin, February 26th, A. Fraenkel showed a specimen from a patient who had received during a long time gelatin injections in order to cure an aneurism of the arch of the aorta. The patient was a man aged fifty-three years, who became infected with syphilis at about his twentieth year and thereafter suffered from many secondary and tertiary lesions, in spite of a great deal of antisyphilitic treatment. In July, 1899, he suffered so from an aneurism of the aortic arch that he entered a hospital. He was put to bed and was given an injection of 50 ccm. (oz. 1-jss) of a one-per-cent. solution of gelatin twice a week. In six weeks he had improved so much that he refused to remain longer. After two weeks of running about his symptoms came on in full measure and he returned to the hospital. He was again put to bed, and was given injections twice weekly of a two-per-cent. solution of gelatin. Again dyspnea disappeared, the size of the tumor seemed to grow less, and after twenty-six injections the patient was allowed to get up and go about. The improvement was short-lived and the patient soon began to have attacks of suffocation, in one of which he died. The aneurism was found to occupy the whole arch of the aorta. Over the whole of its inner surface there was a deposit of fibrin 1.5 cm. (0.6 in.) thick. Fraenkel hesitated to affirm that the gelatin injections had caused the desposit of fibrin.

Litten said that the only therapeutic resource which seemed to him to benefit a patient with aortic aneurism is rest in bed. All the methods which have been brought forward to facilitate coagulation in the sac, injection of chemicals into the sac, or of fibrin ferments or ergotin, electrolysis or electropuncture, and, finally, the introduction of foreign bodies into the sac, have failed in his hand to make good the statements of their

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advocates. He had tried gelatin in four cases. None of the patients had died, but none was improved by the treatment. He did not believe that the layer of fibrin in Fraenkel's case was due to gelatin injections, as it is often found in aneurismal sacs of patients who have not received injections of gelatin.

SOCIETY PROCEEDINGS.

THE NEW YORK COUNTY MEDICAL ASSOCIATION.

Stated Meeting, Held Monday, March 19, 1900.

(Continued from p. 560.)

Diphtheria Antitoxin.—Dr. W. H. Park of the New York City Department of Health said that the final test of the value of diphtheria antitoxin must be the chemical results of its use. There are many factors that must be taken into account before a definite conclusion can be reached in the matter. In laboratory experiments diphtheria antitoxin undoubtedly does good. To many minds there remains a doubt as to whether the diphtheria bacillus is really the cause of diphtheria or not. In two involuntary laboratory experiments made on human beings in the Health Department of the City of New York severe diphtheria was contracted by the inadvertant sucking up of virulent bouillon cultures of diphtheria bacilli into the mouth. Hence, it would seem, despite the fact that in a third such instance no diphtheria resulted, that the diphtheria bacillus is the cause of the disease. There are undoubtedly diseases that strongly simulate diphtheria, but they do not possess all the characters of diphtheria and can be differentiated even clinically from that disease. Just as cases of pneumonia may be due to the pneumococcus or to the influenza bacillus, so membranous formations in the throat may be produced by various microbes. Diphtheria antitoxin neutralizes diphtheria toxin even outside the body. A mixture of the two may be injected into animals without danger, hence, the lesson to inject diphtheria antitoxin as soon as possible so as to prevent the diphtheria toxins from producing serious deleterious effects before they are neutralized. Besides, secondary infections are not affected by the diphtheria antitoxin. Hence, this remedy should be used early and before the occurrence of secondary infection for which the diphtheria is a predisposing cause. That the belief in diphtheria antitoxin is not a mere fad may be gathered from the fact that while its advocates have so much confidence in diphtheria antitoxin, they do not consider the other antitoxic sera to be of any very great value in human therapeutics.

Statistics of Diphtheria Antitoxin.—In New York for twenty years before 1895, the actual number of deaths from diphtheria each year remained about the same, that is, despite the increase of population there was no actual increase in the mortality from diphtheria. There was a certain periodicity in its fatality. About every sixth year the number of deaths reached three thousand. The mortality ran down to about two thousand in certain years, and averaged about 2400. The lowest mortality in any one year was 1600. In 1894 before the introduction of antitoxin the number of deaths was 2870. During these last four years the average number of deaths has been 1300, that is, more than 1000 less than the average of preantitoxic days. In Boston a similar decrease in the number of deaths has taken place, and the percentage mortality from diphtheria is now less than 4 per cent. Not all the decrease in the number of deaths is due to antitoxin. No one claims this. A certain amount of the decrease in the mortality is due to better hygienic surroundings in the large cities. It is a very striking fact, however, that such a notable decrease in the death-rate from diphtheria should have occurred immediately after the introduction of antitoxin and that this decreased mortality should have continued ever since. Last year in New York 2500 children were injected with antitoxin. Of these 300 died. Without antitoxin the mortality would have been at least double what it was. The death-rate even in laryngeal diphtheria was only 22 per cent., while formerly this type of the disease was fatal in over 60 per cent. of the cases here in New York. Six thousand five hundred children were immunized by injections of diphtheria antitoxin. Of these 28 cases developed the disease within twenty-four hours and all of them recovered; 27 children developed the disease after the lapse of twenty-four hours and all of these recovered with one exception in which scarlet fever complicated the diphtheria. All of these children were directly exposed to contagion, yet over 6400 failed to take the disease. As the result of the immunization some rashes developed and in a few cases some febrile reaction was noted, but nothing lasting supervened.

A good deal of dispute has arisen with regard to the effect of diphtheria antitoxin at the Willard Parker Hospital. Before the introduction of antitoxin the mortality from diphtheria was 30 per cent.; since then it has been 22 per cent. The mortality of cases of intubation for the six months before the introduction of antitoxin was 85 per cent. During these last two years the mortality among these cases has been 52 per cent. Last summer the crucial test was made of taking each alternate diphtheria patient that came to the hospital and treating one series with and the second series without antitoxin. It was very clear to the whole staff that the children that received antitoxin did better than those that were treated without antitoxin. In Boston the hospital mortality from diphtheria is 12 per cent.

Innoxious Serum.—The desideratum now is a serum that will do no harm while accomplishing the good it can do. The only safeguard is to have clean and sterile serum not over six months old. Not that serum deteriorates with age, but

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that there is less of it after standing and one can not be sure of the number of units employed. The Health Department uses no antiseptic in its serum, so that the old contention that whatever effect is produced by the antitoxin is due to the carbolic acid used for preserving it now falls to the ground. Certain sera for reasons not well understood produce rashes. It is the present effort of the Health Department to get rid of the sera that produce these undesirable effects. The only way to eliminate them is by actual test of samples of serum.

Amount of Antitoxin.—In mild cases 1000 to 2000 antitoxin units are to be used. In severe cases 2000 to 3000 units. If necrosis is occurring 3000 to 4000. If twelve hours after the administration of the antitoxin there is no change in the symptoms noted, the dose should be repeated. Twelve hours later it may be repeated once more. As a rule, in children under one year not more than 3000 units should be given at a single dose. In children under six months not more than 2000 units should be given at one time. Advantage should be taken of the fact that a moderate dose of serum will give immunity for at least two weeks, to protect other children of a family who may be exposed to the contagion.

Yellow-Fever Antitoxin.—Dr. Fitzpatrick, as a substitute for Dr. Alvah H. Doty, Health Officer of the Port of New York, who was unavoidably absent, described some experiments made with the serum of the bacillus icteroides at Swinburne Island in New York Harbor and at Vera Cruz in Mexico. (The observations at Vera Cruz were published in the MEDICAL NEWS.) The results as a whole show that no influence is exerted on the disease by the serum. The serum is exactly the same as that used by Sanarelli who reported very satisfactory results from its use in South America, treating 22 cases of yellow fever with six deaths. Archinard in New Orleans also observed no special benefit from the use of serum prepared by Sanarelli himself. Dr. Wasdin of the United States Marine Hospital service used Sanarelli serum in three cases of yellow fever, but without satisfactory results. The injection of the toxin of the bacillus icteroides into patients convalescent from yellow fever gives the falling temperature with rising pulse which is pathognomonic of yellow fever. This specific reaction would seem to substantiate the claim that Sanarelli's bacillus icteroides is pathogenic for yellow fever.

Haffkine's combination of a serum obtained by the use of the bacillus icteroides and the bacillus coli communis has not yet been used on human beings, although it has given some encouraging results according to its inventor, at least, in the laboratory. Agramonte reports four cases of yellow fever treated with human serum taken from patients convalescent from yellow fever. The cases are too few to draw any conclusions from them, and besides no decided benefit was noted after its use.

Typhoid Serum.—Dr. William H. Welch of Baltimore sent his regrets for not being able to attend the meeting, and a note stating that in his opinion there is no satisfactory evidence of the clinical or laboratory value of any typhoid serum so far prepared. A vaccine recently invented seems to be more promising, but, as is evident, a long series of observations will be needed before its definite value can be decided. There is enough known of the subject to encourage further observation, but that seems all that can be said.

Antirabic Serum.—Dr. R. J. Wilson, of the Health Department of the City of New York, said that animals had been inoculated with rabies and then the serum collected with the idea that it would prove curative of the disease. The results so far obtained are extremely doubtful. The subject is one of the greatest interest, because once the symptoms of rabies have developed the Pasteur preventive treatment fails of its purpose. It is to be hoped, then, that the antirabic serum used in combination with the preventive treatment may retard the invasion of the disease, and so give preventive inoculations time to effect their prophylactic purpose.

Antistreptococcus Serum.—Dr. Howard Lilienthal said that he has no reason to change the opinion which he expressed with regard to antistreptococcus serum three years ago. He then said that it rarely did harm and that patients should be given the chance that its administration sometimes seems to afford. When patients to whom it is administered have only a local streptococcus infection, they all recover. Dr. Lilienthal, however, has never seen a single case of recovery when streptococci could be demonstrated in the blood. Certain inconveniences attach to the use of a serum. The troublesome urticaria is frequently noticed. Once streptococci were found at the point of inoculation in an abscess although the serum was proved surely sterile by failure of cultures from it. Streptococci were found in the blood of this patient, the abscess became large and phlegmonous, and the patient died on the eighth day. A good practical rule in cases of septicemia seems to be to open up the wound thoroughly and then if streptococci can be found in the blood or in the urinary sediment, give the serum. If there are no streptococci in the urine, await the result of the blood-cultures, unless the symptoms become alarming. Successful blood-cultures may be delayed from three to seven days.

Dr. William B. Coley gave the recent results of the mixed toxins in sarcoma. They appeared in a recent issue of the MEDICAL NEWS.

Technic of Injections.—Dr. Gibb said that not more than 500 to 1000 antitoxin units need be given at a single dose. The best place to give the injection is in the outer part of the thigh, inserting the needle to the depth of an inch and a half. The injection should be given very slowly, five to fifteen minutes should be taken for the purpose. The injection should be repeated in twenty-four hours and again in forty-eight hours, unless the symptoms show marked improvement.

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Dr. Knopf said that he had had some experience with antituberculous and antistreptococcus serum, but his success with these remedies had not been such as to make him wish to use them to the exclusion of dietetic and hygienic methods. He had especially tried Marmorek's streptococcic serum for secondary infection of tuberculous lungs; and, while it seemed to give some reduction of temperature in cases where streptococci were found in the sputum, the definite results had not been very satisfactory. Experimentation along these lines must be continued, since it promises so much.

NEW YORK ACADEMY OF MEDICINE—SECTION ON MEDICINE.

Regular Monthly Meeting, Held Tuesday, March 20, 1900.

John H. Huddleston, M.D., Chairman.

The subject for the evening was a discussion on rheumatism.

Treatment in the New York Hospital.—Dr. Hughes Dayton said that the first and most essential part of the treatment for acute rheumatism in the New York Hospital is considered to be rest in bed, on a low diet consisting entirely of liquids. The drug-treatment is begun with a thorough purgation by salines. The salicylates are then administered. The usual form is the salicylate of soda in fifteen-grain doses every three hours, until the symptoms of fever and pain abate. If mental symptoms develop as the result of the fever, sodium bromide, thirty grains, is given with each dose of the salicylate. The tolerance for the salicylates is much better when administered in conjunction with the bromides. When for some reason the sodium salicylate is not borne well, salol is substituted, although this drug is usually given only in mild cases. Twice within the year, symptoms of poisoning with the salicylates have occurred. In neither case had they been administered in any considerable doses. These cases serve to show that it is not so much the absolute dose of the salicylates that cause the symptoms as it is a special susceptibility of the patient to their effects. In one case in which sodium salicylate seemed to be the cause of active delirium, the symptoms were very much lessened by large doses of sodium bromide. When sodium salicylate cannot be given salophen sometimes gives good results. When sodium salicylate is not borne by the mouth, it will sometimes be absorbed by the rectum without giving symptoms of irritation. Of late this method of administration has been successfully employed several times in the New York Hospital. Locally the application of methyl salicylate affords great relief from the pains. When the other salicylates cannot be taken by the mouth, the external application will sometimes of itself serve the purpose of ameliorating the pain. After the application of the methyl salicylate on a thin compress of gauze, it is covered with rubber-tissue and bound on. Absorption takes place very rapidly. Salicylic products can be noted in the urine thirty minutes after its application to the unbroken skin. If fluid persists in the joints after the acute symptoms have subsided, a cantharides blister will help to disperse it. For hyperpyrexia large doses of sodium salicylate are given besides a cold bath at 65° F. For the stiffness that follows acute rheumatism hot-air applications are usually employed. For subacute rheumatism the salicylates are not pushed to the extent to which they are used in acute cases. The alkali treatment is found to be very useful in these cases. Locally applications of methyl salicylate and hot-air baths give the most satisfactory relief of symptoms. For chronic rheumatism local hot-air treatment is employed and nutritious diet is provided, the alkali waters are given plentifully and the iodides freely prescribed. For muscular rheumatism salol and phenacetine are found to be of advantage, methyl salicylate is used locally; also belladonna ointment with good effect. It is in these cases particularly that counterirritation does good.

Treatment at the Mt. Sinai Hospital.—Dr. L. A. S. Bodine said that for acute articular rheumatism, first, calomel and salines are used to clear out thoroughly the intestines. Then fifteen to twenty grains of salicylate of soda is administered every four hours until the acute symptoms abate. Bicarbonate of soda is given in sufficient doses to make the urine alkaline and keep it so. Baths, at a temperature of from 75 to 90° F., help to relieve the acute symptoms. If eruptions occur and severe tinnitus aurium, the salicylates internally are replaced by external applications of oil of wintergreen, or by full doses of iodide of potash internally. For hyperidrosis, belladonna or its alkaloid is used. When the pain is very severe and persistent, phenacetine or antipyrine is employed. If the sleep is much disturbed, trional and the bromides are indicated. The patient is kept on an absolutely liquid diet, but is not limited to milk. On the contrary, a large variety of liquids are allowed, so as to avoid as far as possible the tendency to malnutrition so marked in rheumatism. Coffee is allowed once or twice a day, but it is apt to cause sleeplessness. All nitrogeneous food is avoided. The drinking of plenty of water is encouraged. The salicylates are always given well diluted and never on an empty stomach. The oil of gaultheria is employed for its local effect on the symptoms of the disease. When the effusion into the joints is extensive, tincture of iodine, firm pressure, immobilization and, as far as possible, elevation of the limb, are employed with very satisfactory results. For chronic rheumatism hot-air baths are employed and potassium iodide prescribed in reasonably large doses. Passive motion and massage help to restore mobility to the joints.

During convalescence from an attack of acute rheumatism one of the most important indications is the anemia that so commonly develops. For this, quinine, iron and strychnia are given. After forty-eight hours' remission of symptoms, eggs and starchy foods may be allowed, but no meats

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until convalescence is well established. Chicken or turkey should be the first meats permitted. Out of 38 cases of rheumatism treated during the past year in Mt. Sinai Hospital, 29 were discharged cured and the remaining 9 were benefited.

Dr. J. J. Walsh then read a paper on

The Differential Diagnosis of Chronic Rheumatism.—It will appear in a subsequent issue of the Medical News.

Hot Air for Chronic Rheumatism.—Dr. Thos. L. Satterthwaite said the original use of hot air in medicine was suggested by Turkish baths and the first experiments were made with the simple warm chamber in which the patient was enclosed. As under these circumstances he would rebreathe the products of his own respiration, a box in which only the body or parts of the body were enclosed seemed more advisable. In a Turkish bath the temperature cannot be raised as a rule above 170° F. In the hot-air box parts of the body can be subjected to a temperature of 400° F. The main idea of all the mechanisms which have been invented for the purpose of giving hot-air treatment has been to keep the skin dry while the air is heated all around the limb or part of the body that was subjected to the high temperature. For this purpose, when the temperature to be borne is not very high, the part is simply covered with a Turkish towel; when the whole body is to be subjected, it is covered with an ordinary bath-robe. When temperatures above 300° F. are to be borne, however, the part must be very carefully wrapped up and no spaces allowed to exist between the cloth and the skin. Otherwise, the perspiration at these points will become so heated as to scald the patient.

Precautions.—Machines for giving hot-air treatment are very thoroughly lined with asbestos so as to prevent the patient from being burned. There is no disadvantage in submitting patients suffering from albuminuria or glycosuria to the hot-air treatment. On certain theoretic grounds it has been taught that these conditions constituted a contraindication. In practice they have not proved so. If the hot-air bath is continued too long it acts as a nerve-depressant. In this matter each patient must be a law unto himself. No general rule can be laid down. When the treatment is first given the patient should be specially watched, his temperature and pulse and his general condition faithfully noted, and before any sign of depression manifests itself the treatment should be stopped. Patients grow accustomed to the treatment after a time and then it may be continued for a longer period than at first.

Effects of Hot Air.—When a limb is subjected to hot-air treatment there is at first a lessening, then an increase, in the circulation of the skin of the part, with the injection of the peripheral capillaries and a sense of a warmth. The pulse gradually rises until it is ten to twenty-five beats higher than it was when the treatment was begun. There is a rise of temperature of from one to five degrees. There is usually an increase of respiration up to twenty-two or twenty-four to the minute. A general sense of comfort comes over the patient very soon and continues as long as the treatment is doing good. After a time, which is variable in different patients, a nervous depression supervenes which should not be allowed to continue. As a rule the treatment should stop just short of this and then it will have its maximum effect. Professor Stewart of McGill University says that for rheumatoid arthritis, meaning by this what in the States is known as chronic rheumatism, the hot-air baths are the best remedy there is. They have been tried now in a large number of cases and there is no doubt that they give excellent results in an ailment from which the doctor is able to afford very little relief. For chronic arthritic rheumatism, for muscular rheumatism, for sciatica, for rheumatic painful conditions that succeed old fractures the hot-air treatment is a most important indication.

Possible Contraindications.—It is not positively known whether or not in anemia, fatty degeneration and arteriosclerosis the use of the hot-air treatment is dangerous. The rise of pulse and temperature and a certain tendency to increase of blood-pressure that occurs would seem on theoretic grounds to mean that the hot-air treatment is contraindicated wherever a degenerate heart or arteries are concerned. Although the treatment has been used in a good many of these cases, no accidents have as yet been reported. Special care should be taken, however, with the hot-air treatment in these conditions. The treatments should not be prolonged and the effects of the first few treatments should be noted very carefully.

Dr. H. W. Gibney read a paper, entitled

Rheumatic Joints Treated by Hot Air.—This paper will appear in a subsequent issue of the Medical News.

Electricity in Chronic Rheumatism.—Dr. W. J. Morton said it is the custom to say that very little is known about electricity. Lord Kelvin once said that a good deal more is known about electricity than is known about shoemaker's wax, for instance, or a good many other things that are in common use. It is the custom to divide electricity into the three forms, Faradism, Galvanism and Franklinism. There is, however, no real distinction between these three forms. Electricity in any form consists of the development of electromotive force which, when applied, represents work done.

While, so far as the essential qualities of electricity are concerned, it makes no difference which form of electricity is used, it has been found in practice that the high potential and the high frequency of an influence machine are the most efficient remedial measures.

The form of electricity that Dr. Morton has found most effective for these cases is the static current. One pole of a static machine is connected with the earth, the other is connected with

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the patient who is placed on an insulated glass stool. Under these circumstances the patient represents one tin foil of a Leyden jar. The air represents the glass and the room the other tin foil of the jar. The patient is thus subjected to powerful condenser waves, which are most effective in certain painful and trophic conditions. Among the advantages of this form of electrical treatment may be mentioned, first, the fact that there is no sensation of pain or even of discomfort; second, that it produces a benumbing effect upon any painful conditions which may be present; third, that there is no muscular unrest as a result of its application to disturb irritated structures; fourth, that it has been demonstrated that during its application the absorption of oxygen by respiration is distinctly increased and the elimination of carbon dioxide also proportionately increased. There is some loss of weight as the result of the heightened metabolism. This is readily regained, however, because of the tonic effect of the electrical treatment, and the general health improves very materially and rapidly, under frequent administration of this current. In addition to the general effect of the electricity, there is a local reaction which relieves pain and corrects disturbed local metabolic processes.

Nervous Theory of Rheumatism.—Various theories have been advanced for the etiology of the rheumatic condition. For a long time it was thought to be due to hyperacidity of the blood. This view has, however, lost rather than gained adherents of late years. A modern view is that the arthritic symptoms are due to some defects in the nervous system, in a word, that rheumatism is a neurotrophic condition of the joints. This explanation is as good as any other. It constitutes an indication for treatment by electricity that should not be neglected. There is no doubt that for chronic and subacute rheumatism, general electrization is becoming more and more popular and that electrostatic-current methods are especially giving brilliant results of late years.

Technic of Electrical Treatment.—The electrodes may be made of any pliable metal. Dr. Morton uses block tin himself and has it in sheets or rolls that may be cut to any desired size. The spinal electrode for instance may be one inch by twelve inches, and this may be used also to wrap around joints, such as the wrist, or to mold on a limb. The smaller electrode, it must be remembered, the more intense the local electric action. The bare metal should be applied to the bare skin without any intervening leather or other covering. Metallic cloth which can be obtained from military furnishing-stores may be used to wrap a whole limb, or even to envelope the entire person of the patient. A suit consisting of blouse and pajamas may be made from it. If an unpleasant prickling accompanies the application of the current it may be dispelled by pressure. A sitting should last for fifteen to thirty minutes, although this depends to a great extent on the patient. Just as for a ride on a bicycle or on horseback, the condition of the patient should be carefully consulted to determine the length of each treatment.

Results of Treatment.—Immediately following an application of the electrostatic current in painful conditions the most noticeable result is a relief of pain that lasts for some hours. After each cucceeding séance the duration of the relief thus afforded becomes longer and more and more powerful currents may be used with progressively good results. Locally long sparks may be employed with excellent effect in acute painful conditions. Dr. Morton has employed the electrostatic current for twenty years and has found no method so effective for painful conditions that are due to a constitutional diathesis. In gout, for instance, the relief afforded is often so complete and so rapid that the patient stamps after a séance to assure himself that the pain is really gone and that he is not laboring under a delusion. Rheumatoid arthritis may be completely arrested by applications of the electrostatic current. It does not, of course, restore tissue that has been destroyed, but the swelling disappears to a large extent, the disability is greatly lessened, and the patient made very comfortable compared to his former state. Dr. Morton showed by a series of X-ray photographs that even in old cases of rheumatoid arthritis there are often no serious changes in the bony structures. The pathologic conditions in the soft structures are very promptly ameliorated. The first sign that the treatment is doing good is seen in the disappearance of that shining look so characteristic of the disease. After this the joints begin to grow better. There is undoubtedly a fruitful field in hospital work for electrostatics. Every hospital should be supplied with a large influence machine.

Diagnosis vs. Treatment of Rheumatism.—In discussion Dr. Lezinsky said that there would undoubtedly be fewer complaints of failure in the treatment of rheumatism if the diagnosis were made more exactly. Neurologists are constantly finding cases that have been treated for rheumatism in which the painful condition is really due to some nervous defect. There is a tendency in our day to neglect local measures and depend almost entirely on internal medication. It must not be forgotten that the cold pack and local applications, such as wintergreen oil, may be of the greatest service for the relief of pain and may very materially aid the internal treatment. For chronic rheumatism the hot-air treatment is not used as much as it ought to be. The electrostatic treatment has not given much benefit in Dr. Lezinsky's hands. It does good in muscular rheumatism, but does not help chronic rheumatism much, and he is never willing to confine the treatment to static electricity alone. There is no doubt that static electricity would do much more good than it does now in the practitioner's hands, if it were used for a longer period at each sitting. Five to six minutes of an electrical séance can have scarcely more than the psychical influence which so many claim to be the only effect of electricity.

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Dr. Manges said that it is undoubtedly a mistake to saturate a patient suffering from rheumatism with the salicylates to the exclusion of local and other forms of treatment. The salicylates are not a specific for rheumatism and they do not prevent heart complications more than any other form of treatment. Dr. Pribram of Prague in his recent work on acute rheumatism in Professor Nothnagel's system of special pathology and therapy collects a large series of cases of rheumatism treated with the salicylates, with 68 per cent. of heart complications, and another series of cases treated without the salicylates with only 50 per cent. of heart complications. At Mt. Sinai Hospital it is noted that patients convalescent from rheumatism suffer to a marked extent from anemia. This must be borne in mind and tonic treatment, especially iron tonics, must be begun as soon as acute symptoms subside. There are two dangers in the use of the hot-air treatment. The one is from fire, which has occurred twice in the wards of the Mt. Sinai Hospital, although the greatest care was taken. The other is the danger of setbacks from exacerbation of symptoms, because of exposure to cold immediately after the hot-air treatment, or because the air of the room is too cold during its administration.

Dr. Kessler said that he has now treated 350 cases of all kinds of arthritic troubles by the hot-air method and he is convinced of the great benefits to be derived from its use. Out of 20 inveterate cases of chronic rheumatism 18 were so much benefited that they were able to resume occupations given up long before. Five resumed work after five years of idleness, one had been helpless for fourteen years. It is not the only treatment used, but it is an excellent adjuvant to other methods. Lactic-acid lemonade seems to be of distinct service in these cases of chronic rheumatism. Joints should not be immobilized during an attack of acute rheumatism as they may become anchylosed. This warning is important as it is mainly the joints that have been immobilized too strictly that come to be treated afterward by hot air. For muscular rheumatism acupuncture is an excellent remedy, and often affords relief when all other means fail. The highest temperature in the hot-air baths should not be above 340° F. There are those who advise the use of 400° F., but the increase of temperature adds considerably to the risk of burns and to the depressing effect on the patient and does not add proportionately to the curative effect of the hot-air bath. At a temperature of 340° F. the apparatus requires the most careful watching to prevent scalds.

Treatment of Neuralgias.—As a rule, neuralgias are not benefited by the hot-air treatment. Besides, there is not infrequently considerable danger in neuralgic cases of the patient taking cold afterward. Sciatica, however, is often relieved by hot-air treatment when everything else has failed. Rheumatic gout is most resistant to treatment. Burns are out of the question, as a rule, in a good apparatus if a reasonable amount of care is taken. The thermometer at the top of a hot-air machine from which the reading is made is always at least 30 degrees higher than the air at the bottom of the machine where a current of fresh air is constantly entering. For neuralgia of the face and for the itching of the eyeballs sometimes noted in gouty subjects, the little machine known as a Japanese hand-warmer often affords a great measure of relief. It may simply be held in the hand and applied to the affected part. Rheumatic iritis, an extremely discomforting condition, is often relieved by the same simple apparatus.

Dr. Satterthwaite, in closing the discussion, said that the hot-air apparatus is not merely a conventional method of treatment, the use of which can be confined to any one who cares to purchase the apparatus. The fact that a notable increase in the temperature, in the pulse, and in the respiration-rate is noted shows that hot-air treatment is a serious therapeutic agent, the abuse of which may be followed by unfortunate results. Hot-air treatment, then, should be given only under the immediate supervision of a medical man and one who has had some experience with this method of treatment and with the apparatus he proposes to use. At present, unfortunately, the use of these apparatus is mainly in the hands of certain non-professionals who do not realize the necessity for care in their use and who probably have no proper notion of the dangers that may be involved in their employment.

NEW YORK NEUROLOGICAL SOCIETY.

Stated Meeting, Held Tuesday, March 6, 1900.

The Vice-President, Joseph Collins, M.D., in the Chair.

Aneurism of Aortic Arch; Pupillary Abnormality.—Dr. W. B. Noyes presented a man, forty-six years of age, who had the initial lesion of syphilis four years ago. He had been referred to Dr. Noyes recently for a recurrent laryngeal paralysis, the result of pressure of an aneurism of the arch of the aorta. Further examination showed increased knee-jerk, mental symptoms, a pupillary abnormality, and a mental dulness which suggested an incipient general paresis. The left pupil was contracted, the knee-jerks were markedly increased; under any mental strain he showed twitching of the face. The case was exhibited to determine whether or not it might not be possible for such an aneurism to cause this pupillary phenomenon by interference with the sympathetic branches. The aneurism is not sufficiently large to involve the spinal cord.

Dr. G. M. Hammond said that he had made a superficial examination of this man. There could be no question about there being certain mental defects, and from a consideration of all the signs and symptoms it seemed to him that the man was suffering from cerebral syphilis. This was am-

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ple to account for the change in voice and for the other symptoms.

Dr. Pearce Bailey was disposed to explain the alteration in the voice and the pupil by pressure on the recurrent laryngeal nerve and interference with the sympathetic.

Dr. B. Sachs said that the very great difference in the two radial pulses seems sufficient evidence of the presence of aneurism, and the aphonia is characteristic of peripheral disturbance resulting from solid neoplasm or an aneurism. The condition is entirely typical of what is commonly found in general paresis, cerebrospinal syphilis, and some other conditions. The mental symptoms do not seem to him characteristic of an ordinary general paresis.

Dr. W. M. Leszynsky said that both pupils react very well to convergence, showing that in all probability the pupillary reaction is not dependent upon any special syphilitic condition.

Dr. Noyes said that the examination of the eyes shows mixed astigmatism in both eyes, slight paleness of both optic disks, and weakness of the eye muscles, but no definite paralysis. Laryngoscopic examination shows plainly a recurrent laryngeal paralysis. It has existed about three weeks, and is improving under antisyphilitic treatment.

Specific Cervical Pachymeningitis.—Dr. Sachs presented a man, thirty-eight years of age, who gave a fair history of having had a hemiplegic attack about three years ago. From this he recovered promptly, and had no further trouble until last October, at which time he developed a complete rigidity of the cervicodorsal region of the spine. In addition, he complained of great pain radiating from the lower cervical region into the arm, and presented a very marked atrophy of muscles of the right shoulder girdle. A diagnosis was made of specific pachymeningitis of the cervical region. The case is interesting as presenting a clear example of extraspinal syphilis. The pains and atrophy are interpreted as root symptoms. There is a clear history of syphilitic infection having taken place five years ago. The patient was put upon increasing doses of the iodide, and had taken as much as 60 drops of the saturated solution three times a day. He is now entirely free from pain, and can move his head very freely. The speaker said that in his experience these cases have been extremely rare.

Dr. Joseph Fraenkel said that there is at present a similar case at the Montefiore Home. The patient is a man, about thirty-two years of age, who gave no history of syphilis. He had about four months ago a transient hemiplegia, with some mental deterioration. Six weeks later he developed pain and stiffness in the neck. He was admitted about two weeks ago, and at that time exhibited a marked torticollis. He is stupid and apathetic; the pupils are unequal and do not react to light. There are evidences of the old right-sided hemiplegia, and on the left lateral portion of his neck are two distinct and rather hard tumefactions. The trapezius, deltoid, biceps, triceps, and the interdigital muscles on the left side are all considerably atrophied, and give the reaction of degeneration. All the muscles on the left side of the neck are in a state of increased myotatic irritability. The diagnosis was made of a syphilitic meningitis of the base and of the upper part of the cord. Under antisyphilitic treatment improvement has been quite rapid.

Dr. Joseph Collins thought there could be no doubt that the case just presented is one of those rare examples of syphilitic pachymeningitis, rare in that it attacked the roots. He has seen the case referred to by the last speaker. There had been a true myositis in the cervical region, producing a torticollis, muscular atrophy, and degeneration. He sees no reason for the statement that this case is a parallel to the one presented by Dr. Sachs.

Disease of the Thoracic Division of the Sympathetic Chain.—Dr. Joseph Fraenkel read a paper with this title. He said that most of the text-books make meager reference to the sympathetic system, and, indeed, there was very little known about the thoracic sympathetic. The following case was reported: The patient, a woman, was first seen on July 25, 1898. Her family history was excellent, and she herself was of simple and temperate habits. She had been in good health up to ten days prior to this first examination. At that time she had awakened at midnight with a peculiar pain in the left extremity, and this had soon been followed by painful contractions of this extremity, and finally of the other lower and upper extremity. The attack had lasted a few minutes and had terminated in a laughing spell. No aura had been detected. The objective findings after an exhaustive examination justified only a diagnosis of hysteria. On April 17, 1899, he found her sick in bed, complaining chiefly of severe pain in the thoracic region. The rhythm of the pulse was greatly disturbed, but otherwise the physical examination was negative. Subsequently there had been a rise of temperature, and auscultation then revealed a distinct systolic murmur over the heart, which was attributed to the great distention of the abdomen with gas and the consequent displacement of the heart. The next morning she was very much better, but the following evening she went into collapse and died before a consultation with a surgeon could be held. At the autopsy, made by Dr. Van Gieson, the four upper sympathetic ganglia on both sides were found buried in a mass of purulent material. The pus lay beneath the pleura near the vertebral column. There were no evidences of recent reactive inflammation in the neighborhood of this abscess. The other findings were negative. Staphylococci and streptococci were found in the pus. There were no tubercle bacilli present. The speaker expressed the opinion that hysteria was the only possible clinical diagnosis in this case, and it should be remembered that fatal hysteria is not unheard of. He had been able to collect fourteen such cases. The case raised the interesting question as to whether the closing symptoms were connected with the earlier ones, or

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were entirely independent of them and due to the accidental involvement of the thoracic sympathetic ganglia.

Dr. Hammond said that the report did not seem to him to connect the lesions found at autopsy with the symptoms detailed in the clinical history. The inference was that the patient at first had hysteria and subsequently developed the abscess which caused her death.

Dr. Sachs said he was pleased to learn that there are very few recorded cases of fatal hysteria that could stand a critical examination. He had at one time under his care a woman of twenty-five who presented all possible hysterical phenomena. The diagnosis of hysteria had been made by himself and by others, and was persisted in until the woman had suddenly developed coma. This was followed rather suddenly by anuria and death, and the autopsy revealed chronic nephritis. Of course, the latter had nothing to do with the hysteria. In the case under discussion some of the later symptoms that had been attributed to the hysteria were really the result of the abscess of the pleura. It would seem to him that this abscess must also have involved some of the roots as they emerge from the vertebral column; hence, the symptoms presented could hardly be interpreted as having been entirely the result of an invasion of the sympathetic chain. The case certainly did not present any marked relation between hysteria and the thoracic sympathetic.

Dr. Leszynsky said that hysteria is a functional nervous disorder which occasionally results in organic disease and so indirectly might be the cause of death. It is well for the general practitioner to remember that every symptom observed in an hysterical subject is not necessarily a part of the hysteria.

Dr. Collins took the ground that the first scene presented in this report was one of traumatic hysteria and that the latter symptoms were dependent upon the formation of a subpleural abscess. The woman unquestionably had not had hysteria until after her marriage, yet hysteria, like epilepsy, is a psychosis of early life. The abscess had apparently been of very slow formation, quite circumscribed near the very last, and a very small focus of degeneration could easily have caused her symptoms. The case seemed to show the possibility of the occurrence of hysteria as a part of derangement of the sympathetic.

Dr. Fraenkel said that he had endeavored to report in detail and without prejudice this case, which was clinically hysteria beyond all question. It is generally acknowledged that hysteria may occasionally cause death, usually through some paralysis of the sympathetic. The slight lesion of the sympathetic found at this autopsy would have been undoubtedly overlooked had the pathologist not been put on his guard by the request that a special search be made into the condition of the sympathetic.

Torticollis and Its Treatment.—Dr. W. P. Wilkin reported a case of torticollis occurring in a journalist, thirty-three years old, who had previously enjoyed good health, is of a nervous temperament, and lives liberally. During the summer of 1898 his work was exceptionally arduous, and he then became neurasthenic. After a time he began to suffer from an aching feeling in the back of the neck and along the right sternomastoid muscle. This gradually developed into a marked torticollis. The man entered St. Luke's Hospital in May, 1899, and was made to rest in bed for all but two hours out of the twenty-four, and a support was applied. Various methods of external and internal treatment were tried without benefit. He was then treated by the speaker at the Post-Graduate Hospital by suspension and by the internal use of eighteen-grain doses of the valerianate of zinc. A point of importance in the treatment seemed to be allowing him considerable freedom in the hospital and a liberal diet, and placing him in a private room instead of in a hospital ward. Subsequently the man experienced a great deal of relief while in a London hospital from the use of one grain of exalgin, three times daily. In these spasmodic cases gentle pressure with one or two fingers is often enough to restore the head after it has been drawn violently to one side. One of the best methods of treatment for this variety seemed to be an abundance of rest and a quiet out-door life. The employment of drugs alone can hardly be expected to accomplish much good.

Dr. Collins remarked that he has seen a number of cases of torticollis, but never one so severe and so disabling as this one. It was marvellous to see the prompt improvement that followed the use of suspension.

Dr. Hammond said that a number of years ago he had formulated the hypothesis that clonic torticollis is a result of irritation of the nuclei of the nerves, and that tonic torticollis was the result of irritation of the nerves themselves. Later experience has not led him to change this view, although he is aware that others do not accept this theory. From the history of the case just reported it seemed that this case had at least a partial psychical origin. The beneficial influence of suspension would lead him to suspect a psychical origin, for there is no reason for expecting benefit to follow suspension in a case of organic torticollis. In his own practice he has secured the best results from conium when pushed to its physiological limits. It has often proved serviceable in the organic cases when other remedies failed. In the psychical cases the selection of the remedy is not of much importance unless the psychical impression can be relieved. In the case under discussion he could not help feeling that the means used were entirely inadequate to have accomplished the results unless the case was largely psychical.

Dr. Leszynsky said that he had been intending to report two cases which had come under his care during the past six years, both of which had recovered. One of these patients, a woman, had been kept in bed from two to six months at a time. In addition to the general management so well

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understood these patients had received massage and gymnastic manipulations of the head and neck. The first patient had this systematic treatment for a period of nine months. In his case suspension seemed to act both psychically and mechanically. The attendant was instructed to use massage up to the point of thoroughly stretching and exhausting the muscle. In both of these cases he used atropin, conium, and other remedies without much satisfaction. Suspension causes stretching of the muscle, and in this way gives it the needed rest.

Dr. R. G. Wiener said that he has four cases of torticollis which he had been able to observe for a long time. Two of these patients are males with an alcoholic history. By the hypodermic injection directly into the muscle of atropin and morphin, in increasing doses, these patients had been thoroughly restored in nine and eleven weeks respectively. The third case had been treated surgically, but had relapsed. The fourth case had proved rebellious to all treatment.

Curious Hysterical Disturbances of Vision.—Dr. Phillip Meirowitz reported this case, which occurred in a woman of twenty-five, of neurotic temperament and inheritance. In the spring of 1895 she began to suffer from hysterical attacks. Subsequently she developed laughing and crying spells, and these become more frequent and severe. When seen in March, 1898, the seizures had not been so severe and consisted chiefly of crying, brought on by mental strain. Frequently, when gazing into the air, or when looking at the pavement, colored concentric rings would be seen. In darkened corners she would see certain peculiar figures of various colors and shapes. On rising from a couch she frequently saw a succession of blue commas surrounded by green spots. These would disappear on looking out of the window, but people passing in the street would be surrounded by colored borders. Often the images were duplicated, and showed the complementary color. At times her memory became distressingly bad, and the spelling of words became difficult. Her condition had been ameliorated by hypnotism. When first seen in June, 1896, hysterical stigmata had been sought for, but not discovered. Examination of the eyes showed hysterical astigmatism.

Dr. Leszynsky said it is not unusual for the more intelligent hysterical patients to describe a great variety and multiplicity of symptoms. It is difficult to determine how much is purely subjective.

REVIEWS.

The Nervous System and Its Constituent Neurones. Designed for the Use of Practitioners of Medicine and of Students of Medicine and Psychology. By LEWELLYS F. BARKER, M.B., Tor. New York: D. Appleton & Company., 1899.

IT may well be said that this work contains everything known up to date of the anatomy of the nervous system based on the neurone conception. It shows a mass of research, an extensive amount of reading, and a fair amount of original work which has developed for the author a high position among the more progressive neuro-anatomists of the day.

After a general introduction showing the evolution of the neurone concept from the early work of Schleiden and Schwann, of Purkinge, and later of Heule and especially of Remak, von Kölliker and Deiters, to the later and more modern discoveries of His, Forel and Golgi, and to the still more recent researches of Ramón y Cajal, von Gehuchten, Retzius and von Lenhossék, the author takes up the most recent work of Apathy which was supposed to have destroyed, if not revolutionized, the entire fabric based on the neurone theory of the organization of the nervous system. He shows that, while recognizing the vast fund of information, of improved technic and of wonderful descriptions given by Apathy to the solution of the complex organization of the nervous system, Apathy's conclusions and deductions must be viewed askance until his work has been compared with the findings of other workers in this field.

The author next takes up the subject of the morphology of the neurones, with its internal and external characteristics and shows the epoch-making work in this field of Nissl, who has laboriously and industriously worked for many years therein. The work of Held on this subject is likewise well described.

The embryology of the nervous system is described under the caption of the histogenetic relations of the neurones. To this subject the author gives much attention and his descriptions and presentation of known facts are thoroughly adequate. Next, the physiology and pathology of the neurone engage his attention, and are followed by the grouping and chaining together of neurones in the complex nervous system of men and the mammals. The last is the main feature of the book and presents all the salient, as well as mooted, points in the anatomy of the nervous system.

Dr. Barker may well be proud of his work, which is without doubt the best presentation of the facts of neuro-anatomy that has appeared in the English language. The publishers have dressed the book in the best style, the illustrations being numerous and many of them finely executed.

A Practical Treatise on Medical Diagnosis for Students and Physicians. By JOHN H. MUSSER, M.D., Professor of Clinical Medicine in the University of Pennsylvania; Physician to Philadelphia and the Presbyterian Hospitals, etc. Third Edition, Revised and Enlarged. 8vo., 1082 pages. Illustrated. Philadelphia and New York: Lea Brothers & Co. $6.00.

EUROPEAN students have been fortunate in having a number of practical treatises bearing on

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medical and surgical diagnosis, but up to 1894 American students had to rely in large part on translations. Those of v. Jacksch and of Vierordt are classics, but each represented different trends in medical diagnosis; the former work leaned distinctly to the laboratory side, while the latter was almost exclusively clinical. The first edition of Musser in 1894 combined within one cover these excellent features and at once gained a popularity which it deservedly enjoys at the present time. This, the third, edition has been almost entirely rewritten and in its present form leaves little for the student or practitioner to desire. In fact there is a danger that the work will become too voluminous and thus defeat its own ends as a ready guide in the methods of diagnosis of diseased conditions. The work is divided naturally into two parts, general diagnosis and special diagnosis. General observations, the data obtained by inquiry and the data obtained by observation are the general subdivisions of twenty-one chapters included in the general portion. In addition to this summary of how to look for symptoms and what is their significance, there are special chapters on the blood and the morbid processes. Part II., dealing with special diagnosis, takes up in turn the methods of examination and the diagnostic features of disease of the following regions: Nose and larynx; diseases of the lungs and pleuræ; diseases of the heart, the blood-vessels and the mediastinum; diseases of the mouth, fauces, pharynx and esophagus; diseases of the stomach, intestines and peritoneum; diseases of the liver, spleen and pancreas; diseases of the kidneys and diseases of the nervous system.

Especial attention should be drawn to the chapter on diseases of the lungs and pleuræ and their excellent illustrations. We know of no work of this type that presents so extended and careful a summary of the important features connected with diseases in this region. The student who knows his Musser cannot fail to do his work well.

Principles of Surgery. By CHARLES B. NANCREDE, A.M., M.D., LL.D., Professor of Surgery and of Clinical Surgery; Emeritus Professor of General and Orthopedic Surgery, Philadelphia Polyclinic, etc. With an appendix by WILLIAM A. SPITZLEY, A.B., M.D., Senior Assistant in Surgery, University of Michigan. Illustrated. Philadelphia: W. B. Saunders, 1899.

THIS book is a reproduction of the thirty-six lectures which are delivered by the author each year at the University of Michigan and cover fairly completely the general principles of surgery without entering into a discussion of regional surgery or operations. Furthermore, the author, recognizing the drift of medical sciences and believing that the time has come when bacteriology and pathology should have their own departments for instruction, has omitted as far as possible a detailed description of the bacterial causes and the pathologic lesions of the various surgical conditions. Considerable space is devoted to a valuable and clear exposition of Nature's so-called "physiologic reaction to injury," or the "process of repair," and especially to the causes, appearances, symptoms and treatment of inflammation. A thorough understanding of the various inflammatory processes is, of course, the basis and foundation of all successful surgery and this question is so well treated that any student or practitioner would obtain many valuable suggestions from a perusal of this volume. Besides these fundamental, practical points, a short but interestingly written appendix sums up the history of the "views concerning inflammation" from the time of Celsus down to the recent days when so much discussion has been advanced, endeavoring to give a clear and logical definition of just what inflammation really is. The chapters on hemorrhage give many valuable suggestions and the description of the surgical diseases, especially hydrophobia, is both thorough and entertaining. As the name of the book implies, the principles of surgery alone are treated of, and the book is, therefore, better adapted for the student or practitioner, who desires knowledge in regard to the causes and the rationale of the treatment of the various surgical conditions, than for the intensely practical man who is always looking for new suggestions with reference to the treatment of special surgical cases. The reputation of the author is sufficient guarantee that this new volume will have a large and well-deserved circulation.

A Manual of the Practice of Medicine. Prepared Especially For Students. By A. A. STEVENS, A.M., M.D., Professor of Pathology in the Woman's Medical College of Pennsylvania, etc., etc. Fifth Edition. W. B. Saunders, Philadelphia, 1899.

As the author quotes from Pope in his original preface, "Half our knowledge we must snatch, not take," so does he attempt to put into proper form the knowledge derived from his own wide experience, and place it before the student in order that it may be "snatched," not taken. The little volume is a compendium of all that a student can well be expected to master during his comparatively brief stay at the medical college. The subject matter is placed before the reader succinctly and clearly. The classifications are good, the general arrangement of the various parts of each topic is conducive to clearness, and the fact that the book has now gone through five editions is pretty good evidence that it has met a demand which is as extensive as the contents are intensive. When supplemented and enlarged upon by diligent attendance upon lectures and critical observation at the bedside, the knowledge possible to be gained by the student from this handy little volume can hardly be overestimated. Free use has been made of the works of standard reputation, such as Strümpell, Osler, Vierordt, Gowers, Pepper, Starr, Jacobi, Bruce and Charcot, and the reader may be satisfied that his time

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is advantageously spent in the perusal of this well-prepared text-book.

The International Text-Book of Surgery. By American and British Authors. Edited by J. COLLINS WARREN, M.D., LL.D., Professor of Surgery in the Harvard Medical School, Surgeon to the Massachusetts General Hospital; and A. PEARCE GOULD, M.S., F.R.C.S., Lecturer on Practical Surgery and Teacher of Operative Surgery, Middlesex Hospital Medical School. Volume I. General and Operative Surgery Illustrated. Philadelphia: W. B. Saunders, 1900.

WITHOUT purporting to have created anything novel in this text-book, the aim of the authors has been to offer a description replete with the advances of surgery. To this end some of the foremost surgeons of America and England appear as collaborators. The respective chapters are thus worked out by specialists in their particular field. The result is an imposing array of *ex-cathedra* opinions from dogma, as shown in the liberal reference to classical literature and the frequent lengthy quotations therefrom. The principles of surgery embraced in this first volume are before us for detailed consideration. Beginning with bacteriology, we find an unusually extensive rendering of the technics which is decidedly foreign to a manual of surgery. The colored plates of the bacteria are not as good as they might be, and hardly afford an aid to the novice for the identification of the original article.

A lucid and exhaustive exposition of the accepted teachings of inflammation follows in the succeeding chapters, but the like cannot be said of the accompanying crude illustrations which are meaningless without the necessary illustrative notes. The otherwise excellent chapters on septicemia and pyemia would be free from all confusion were it not for the introduction, at the outset, of the article on sapremia, an unknown quantity, which should have been supplementary rather than introductory. In contrast to these slight deficiencies the chapters on the technic of aseptic surgery, fractures and dislocations are of the best and would form a nucleus for a most excellent text-book in each instance. A most impartial chapter is that on anesthesia, and especially the elaborate and extensive consideration given to nitrous oxide is to be commended, although from the pen of a teacher and expert, the chapter on tumors is not creditable in so far as the unusual has usurped the commonplace. Histologic illustrations are deficient, and, quite naturally, photographs of rare clinical cases, lending themselves best for illustrative purposes, abound. The succinct account rendered in the chapter on diseases of the bones is due to the very rational teaching that osteomyelitis is the primary effect. Even this hasty review of this work is convincing of the scholarly application bestowed upon it by its authors, who, as writers, teachers and active surgeons, must necessarily draw attention to this, the latest creation of a text-book on surgery.

THERAPEUTIC HINTS.

For Otalgia.—Examine for the cause, treating nasal, pharyngeal or laryngeal ulcerations where these exist, or having carious teeth drawn or filled. In the acute form prescribe quinine sulphate, gr. ⅓ or ½, three times a day, or antipyrin, grs. xvi at one dose, followed by grs. viii one hour later. Or the following:

℞ Quininæ sulphat. .....gr. xviii
Potassii iod. .....gr. xxxvi
Sacch. alb. .....gr. xlv.

M. Div. in chart. No. vi. M. Sig. One powder twice a day.

For the chronic form order quinine, iodide of potassium, iron, if anemia exists, or Meglin's pills, as follows:

℞ Zinci oxidi .....ʒiiss
Rad. valerian. .....ʒiiss
Ext. hyoscyami alc. .....ʒiiss. ..
Pulv. et ext. glycyrrh.....q. s.

M. Ft. pil. No. C. Sig. One pill daily at first, increasing by one a day up to thirty, then diminishing correspondingly.

External treatment includes morphine ointment, vesicatories, and galvanism, the positive pole to the ear, the negative to the neck. Massage is occasionally beneficial.—*Politzer* (*Landesmann*).

Inoperable Cervical Cancer.—*Ranoletti* of Rome reports excellent results from applications of formaldehyde in ulcerated conditions of the cervix due to carcinomatous infiltration. The strength of the solution to be used depends on the amount of diseased tissue present and the reaction manifested in individual cases. A 20 per cent. solution is a very strong siccative agent. The infiltrated tissue becomes shriveled up, hemorrhage ceases, and the fetid discharge is suspended, giving the patient great relief. Ranoletti has also tried similar applications in cases of moist gangrene, thereby producing eschars, preventing the absorption of putrid matter which would otherwise occur, and protecting the patient from septic infection. Care must be taken not to allow the solution to touch the healthy tissue.

Pain after Tooth Extraction.—

℞ Spiritus .....ʒ ss
Chloroformi.....ʒ i
Arthritis.....ʒ iii
Camphoræ .....ʒ ii
Tinct. opii.....ʒ ss
Ol. caryophylli .....♏xv.

M. Sig. Apply on bit of cotton.—*T. B. Welch* (Gorgas, Dental Med.).

Styptic for Bleeding Gums.—

℞ Tinct. krameriæ .....ʒi
Chloroformi .....♏viii
Ac. tannici.....gr. iv
Menthol .....gr. iv
Aq. dest.....ʒii.

M. Sig. External use.—*Viau.*

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ORIGINAL ARTICLES.

PAIN AS A PATHOGNOMONIC SYMPTOM OF ECTOPIC PREGNANCY.[1]

BY HENRY C. COE, M.D.,
OF NEW YORK.

IF those who are present were asked to recall the cases which in their experience had given them the greatest anxiety, I have no doubt that the majority would at once think of appendicitis. Considering the uncertainty of the diagnosis in atypical cases, the doubtful prognosis, and the anxious question as to whether an operation should or should not be performed, and when it should be done, acute appendical inflammation is a condition which always renders the practitioner exceedingly uncomfortable. He is fortunate indeed, if among the cases in which life has been saved by an early operation, he does not number others in which either an explorative incision revealed a normal appendix, or far worse, the operation was performed too late to save the patient. In spite of the copious literature on this familiar subject, the fact remains that surgeons of the widest experience can formulate no fixed rules for the guidance of the general practitioner, who after all must rely more or less upon his own judgment in the individual case.

Next to importance as a surgical emergency, although of less frequent occurrence, I would rank ectopic gestation; a condition which has been no less widely discussed than appendicitis, and which presents even more difficult problems from a diagnostic standpoint. Its relative infrequency renders it more likely to be overlooked. The merest tyro is always on the alert for appendical trouble. Every acute pain in the lower abdomen, especially if localized on the right side, awakens his suspicions and leads to a careful investigation. Ectopic gestation, on the other hand, often develops so unexpectedly, is so masked by other pathological conditions within the pelvis, that even the expert is caught napping. A physician in the course of an extended practice may not meet with a case for two or three years, so that he begins to flatter himself that his patients are exempt from this accident, when suddenly it comes like lightning from a clear sky. Old Hebra used to say in his cynical way that "any woman could have syphilis." We shall be more within the bounds of truth if we affirm that "any woman may have an ectopic pregnancy."

It is unnecessary to draw a picture of the classical case presented in the text-books. The student concludes after a single year of practical work that in medicine the exceptions are more numerous than the rules, and this opinion is only confirmed by his experience of ten or twenty years. Nothing would seem to be simpler than the recognition of extra-uterine pregnancy, judging from a review of reports of cases and society-discussions; but every abdominal surgeon must admit that he has frequently met with this condition at the operating-table, where it was entirely unsuspected, or, on the other hand, that he has opened the abdomen in a case which presented almost typical symptoms and has found only diseased adnexa.

An eminent surgeon who long ago passed his tenth century in his list of abdominal sections, recently told me, that after anxiously watching an important case which presented all the symptoms of ectopic pregnancy with impending rupture, and summoning in consultation from a distant city an equally prominent gynecologist who confirmed his diagnosis, he removed the patient to his private hospital, opened the abdomen and —found that the case was one of incomplete abortion, the tubes and ovaries being normal. This confession was most encouraging to me, as I had had a somewhat similar experience in my early days, as others have had.

It is not my intention to discuss the familiar facts regarding the pathology and treatment of ectopic gestation, but to limit myself to a consideration of the single symptom, *pain*. I have been led to call attention to this topic by reason of my experience in a recent case, which seems to be at variance with that of an acute observer, who, in publishing a list of over twenty cases, stated that in nearly every one he had been able to make a correct diagnosis from the characteristic pain *alone*. The following is a brief history of the case:

The patient, a highly nervous young woman, consulted me after she had been married a year, on account of dysmenorrhea and pain in the left ovarian region. Two weeks later I divulsed and curetted a sharply anteflexed uterus, recognizing at the time a prolapsed movable left ovary, not enlarged. I saw little of her until six months later when she came to the office complaining of severe pain in the left side. She had skipped her last period, and a week later began to have an irregular bloody discharge. There were no subjective symptoms of pregnancy. On examination the uterus was found to be somewhat enlarged, and an exceedingly tender mass could be felt behind the left broad ligament. Thinking of the possibility of ectopic gestation, I kept the pa-

[1] Read at a meeting of the Harvard Medical Society, January 27, 1900.

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tient in bed for several days under careful observation. The pains persisted and were so severe as to require opiates. Finally, I insisted upon an examination under anesthesia, with a view to positively determining whether the condition was incomplete abortion with a prolapsed ovary or early tubal pregnancy. Dr. G. W. Jarman saw the patient with me, and the removal of decidual membrane with the curette at once settled all doubts. The ovary was somewhat larger than at the time of the former operation, but no enlargement of the tube could be detected. I concluded that the patient had exaggerated her pain, as is so common with neurotic females. During the next five months she enjoyed excellent health, her menstruation being regular and painless. She menstruated last on October 26, 1899, and had intercourse only once or twice afterward, as her husband left the city for a month. Two weeks later she had a sudden attack of pain in the left ovarian region while at a dinner party, but soon recovered and took a short trip out of town. About the time when her November period was due she had, on two or three occasions, transient pains. A week later a grumous discharge appeared and continued at intervals until she consulted me on December 6th. There were no symptoms or signs of pregnancy. The uterus was not enlarged or softened, and on the left side I could still feel what I supposed was a prolapsed ovary—in fact the condition was apparently identical with that of the previous year, except that the pain was more severe.

Absolute rest in bed was insisted on, and the patient was comparatively comfortable for four days (with no variation of the pulse or temperature above normal), when she had another attack of general abdominal pain during the night which was supposed by her to be due to indigestion, consequent upon taking grilled sardines and milk for supper. It was relieved by a codeine suppository. She stated that the pain ceased suddenly. The next morning she was quite lively and comfortable. On making a vaginal examination I noted that there was a distinct enlargement of the mass on the left side, although it still maintained its globular shape and was not adherent. The suspicion of extrauterine pregnancy was strengthened, and with the approval of Dr. E. H. Grandin, whom I called in consultation, she was removed without delay to a private hospital. On the evening of the same day, with the assistance of Dr. Jarman, we made an examination under ether, being prepared to operate if it should seem expedient. After the examination we unanimously reversed our former diagnosis, feeling reasonably certain that the tumor was simply a cystic ovary or a small tubo-ovarian cyst, since it did not appear to be larger than an English walnut, was quite movable, and corresponded perfectly with the body felt by Dr. Jarman and myself at our previous examination. The uterine cavity was not enlarged and was empty.

The relatives were informed of our opinion, and it was at first decided not to operate. Fortunately I yielded to the advice of my colleagues, and with the consent of the patient's husband, decided to make an explorative vaginal section and to remove the left ovary if it was found to be diseased. On opening the cul-de-sac a gush of fluid blood established the diagnosis. Abdominal section was performed without delay and several ounces of blood and recent clots were found in the cavity. An ectopic sac on the left side was easily removed, as there were no adhesions. The site of the hemorrhage was a small opening on the upper surface of the sac, which was very tense and quite thin at the seat of rupture. It would evidently have become enlarged within a few hours, doubtless with a fatal result. The right ovary and tube were normal. After copious irrigation of the cavity with saline solution, a strip of gauze was carried through the vaginal opening and the abdominal wound was closed, the patient having been under ether less than an hour. The convalescence was entirely normal, and the patient was sent home on the twentieth day. She is now, six weeks after the operation, quite well. Menstruation occurred normally two weeks after she left the hospital.

Although several instructive lessons may be drawn from this case, I have cited it merely to illustrate the fact that it would have been impossible to make a diagnosis from the pain alone, which was neither as severe nor as persistent as would have been expected in a case of ruptured ectopic. The patient, who is a woman of more than usual intelligence, insists that it was never colicky in its nature, but resembled rather the throbbing pain of oophoritis or localized peritonitis.

Less fortunate was my experience in another instance in which I watched for a week a patient who had skipped a period, presumably on account of a severe cold which she had contracted at the time, and when the next was due had several attacks of colicky pain in the left side, where I could feel an enlarged tube (I had seen her in consultation two years before on account of tubal trouble). Both her husband and herself strongly denied the possibility of conception, as means had been taken to prevent it. There were no symptoms of pregnancy. I considered the diagnosis of ectopic, but unfortunately delayed operation, waiting for the expected menstruation. A few hours before the time appointed for the operation and while I was talking with the patient, rupture occurred, and although I opened the abdomen an hour later she died before recovery from the anesthetic.

In a similar case, in which Dr. Grandin assisted me, the patient had missed one period and the next one was then due. She had had pain the previous night similar to that which often preceded her menstruation, but was feeling perfectly well when I saw her. There were no symptoms of pregnancy, and as in the former case, there had been no bloody discharge. I

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could feel an enlarged tube on the left side and stated to the attending physician my suspicions that the condition might be ectopic and that an early operation might be necessary. He could not believe this possible, as the patient had a history of old disease of the tube, but promised to notify me promptly if the pain returned. She had a second attack the same night, but he did not telephone till the afternoon of the following day, when I found the patient nearly pulseless, with all the evidences of internal hemorrhage. A rapid section was performed, but in spite of all our efforts she died a few minutes after the operation.

In contrast to these cases several others may be cited briefly in which the pains, as well as the other symptoms, were apparently typical, yet the diagnosis of ectopic was erroneous.

Case I.—Multipara without any history of previous pelvic trouble. Two weeks before I saw her she had skipped a period, and soon after began to have severe attacks of colicky pain in the left side attended with faintness and acceleration of the pulse; symptoms which were absent in the cases of ectopic before mentioned. The mass increased in size rapidly, was very tense, and the temperature ranged from 100° to 102° F. I removed the patient to the hospital where she was seen by my colleagues, who entertained no doubt as to the diagnosis of ruptured extra-uterine pregnancy. A large ovarian abscess was found on opening the abdomen, which ruptured during removal, flooding the cavity with stinking pus. She made a good recovery.

Case II.—Multipara, who was sent to Bellevue in an ambulance, suffering from severe colicky pains in the abdomen. There was a distinct history of acute pelvic trouble of two weeks' standing, menstrual irregularity and attacks of faintness, with acceleration of the pulse; the temperature was normal. A mass could be felt in Douglas' pouch which presented all the characteristics of an ectopic sac. The pains were regarded as typical, and my surprise on finding an ovarian abscess was great.

Case III.—Multipara, seen in consultation with a surgeon who had made all his preparations to open the abdomen for ruptured ectopic. The patient had missed a period, had an irregular discharge, and colicky pains on the right side, with attacks of syncope and a rapid, feeble pulse. The uterus was enlarged and a mass could be felt behind the right broad ligament. Exploration of the uterine cavity proved that the case was one of incomplete abortion. I had occasion to curette the uterus again a few months later when the same symptoms were present, and could feel the same mass as before, doubtless a diseased tube and ovary. The patient was exceedingly neurotic and exaggerated her symptoms, a common source of error in these cases.

I watched a case of incomplete abortion attended with severe colicky pains with the greatest anxiety for a week before I was able to decide that a tumor behind the uterus was a prolapsed cystic ovary, and not an extra-uterine pregnancy.

Case IV.—Multipara, who had missed two periods, but without evidence of pregnancy. Severe attacks of abdominal pain with faintness and rapid pulse aroused the suspicion of extra-uterine gestation. A tumor could be felt on the right side. Repeated passage of a sound, and intra-uterine galvanization seemed to demonstrate the impossibility of normal pregnancy. The symptoms became so threatening that an explorative incision was made, when a cystic right ovary was found with pregnancy of eight or ten weeks. Baldy has collected a number of similiar cases in his paper in the *Transactions of the American Gynecological Society*, Vol. XV.

In a case of abdominal pregnancy at term, the history of pain early in the pregnancy, but not afterward, was so vague that not the slightest suspicion of the true condition was entertained. It was supposed to be hydramnios, until after the lapse of ten months the unusual size of the abdomen, and progressive emaciation of the patient led to the inference that she was suffering from an ovarian cyst or cancerous ascites. She made a good recovery, after removal of the fetus and placenta.

In order to grasp the significance of the symptom *pain* in connection with tubal pregnancy, it is necessary to follow the pathological changes which occur in the tube from the time of impregnation until the final rupture occurs. These will vary according to the location of the ovum and the fact whether the tube is free or has been fixed by preëxisting adhesions. If impregnation occurs near the fimbriated extremity, the product of conception may be expelled into the peritoneal cavity at an early stage, with slight hemorrhage, and an encysted blood-clot formed. At the time of the accident the pain may be comparatively slight and transient, while the symptoms due to the resulting localized peritonitis so mask the original condition that it is apt to be entirely lost sight of. These are the cases which are so often diagnosticated as diseases of the adnexa, the error being discovered at the operating-table. The same comment applies to cases of hemorrhage into the tube and so-called tubal mole, formerly designated by the "meaningless term, haematosalpinx," as Sutton aptly puts it. Here the distention of the tube is so gradual that the characteristic colicky pains may be entirely absent.

In a typical ectopic pregnancy occurring in the middle of the tube the pains previous to rupture may be due to various causes. Doubtless slight uterine contractions occur from time to time during the first weeks, which closely simulate those noted in cases of suppressed menstruation due to sudden cold. This would easily lead to error as in one or two of the cases which I have cited. The exact cause of these contractions is not clear; in some instances in which the patient has an anteflexion with stenosis they are undoubtedly due to the expulsion of clots as in ordinary cases

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of obstructive dysmenorrhea. It is fair to assume that the stretching of the muscular wall of the tube due to the growth of the ovum would give rise to sudden pains, often of a spasmodic or colicky nature. These would hardly in themselves be pathognomonic of ectopic gestation since they have also been noted in connection with tubal disease, the so-called "*colica scortarum.*"

In cases in which the tube has been fixed by old adhesions, these pains would naturally be more severe, and in connection with a previous history of irregular menstruation and localized peritonitis, the presence of an enlarged tube would render the diagnosis of early ectopic gestation exceedingly difficult.

Several explanations have been given of the preliminary attacks of pain observed in a typical case of tubal pregnancy. Lawson Tait always insisted that each attack represented a slight rupture, with the escape of a small amount of blood, and claimed that he was able to demonstrate at the operating-table the presence of blood-clots of different ages, each corresponding to one of the slight ruptures. While it is true that old and recent clots, as well as fluid blood, are often found on opening the abdomen, the first case which I reported shows that although there were several distinct attacks of pain, the rupture, slight as it was, could hardly have occurred before the night previous to the operation. In several of the cases of encysted rupture upon which I have operated, it seemed probable that, in spite of several attacks of pain, it was only on one occasion that blood actually escaped into the peritoneal cavity.

Janvrin's explanation (*Trans. Amer. Gyn. Soc.*, Vol. XIII.) has always seemed to me more satisfactory, *viz.*, that the preliminary pains are due rather to the rupture of small blood-vessels in the wall of the sac, or to the stretching or tearing of nerve filaments. He lays great stress upon the importance of these slight attacks in connection with the cessation of menstruation and a bloody discharge, and the presence of a tumor, as pathognomonic of unruptured tubal pregnancy, and as a strong indication for the primary operation. As to the possibility of diagnosticating this condition before rupture, I have no hesitation in affirming that it may be done, in spite of the fact that Bland Sutton in his "Diseases of the Tubes and Ovaries" states positively that only one authentic case, that of Herman, is on record. I personally assisted Dr. J. S. Hawley in an operation in which he removed an unruptured ectopic sac, previously diagnosticated as such, and Kelly has reported a similar one. However, I believe that these cases are extremely rare, and, as Tait claimed, they are usually recognized only after rupture has occurred.

Another source of pain in connection with ectopic is not always recognized by those who regard this symptom as pathognomonic; I refer to the localized peritonitis which attends pelvic hematocele, resulting in the formation of adhesions that shut off blood-clot from the general cavity. This condition in itself causes not only more or less aching pain on the affected side, but often paroxysmal attacks which are the frequent accompaniment of pelvic inflammation. This peritonitis may so mask the original condition that the diagnosis is made only after the abdomen has been opened. (In this connection a specimen of ruptured ectopic complicated with a parasitic uterine fibroid was shown. See *Trans. N.Y. Obstet. Soc.*, Jan., 1900.)

It is well known that neoplasms of the corresponding or opposite ovary, pyosalpinx, hemato- or hydro-salpinx of the opposite tube, are often found in connection with tubal gestation. These conditions give rise to pain which may be readily mistaken for the more acute condition. Thus, in the first case reported disease of the ovary had long been present, giving rise to symptoms which on a previous occasion were thought to be due to ectopic gestation. Even in cases of intraperitoneal rupture with profuse hemorrhage the symptoms may simulate other conditions.

I reported a case several years ago in which a physician was called to see a young woman who had been married only six months. She had eaten a quantity of cherries the previous evening and had an attack of vomiting and diarrhea, with general colicky pains in the abdomen, which differed in no respect from those attending an ordinary enteritis. Although he had never seen a case of extra-uterine pregnancy, the fact that the patient had missed a period without symptoms of pregnancy, led him to make an examination and he found a mass in Douglas' pouch. He telephoned for me at 2 o'clock in the morning from a neighboring town. In company with Dr. Jarman I took an early train, prepared to operate. When we arrived the patient was entirely free from pain, with normal pulse and temperature, presenting no evidence of internal hemorrhage. After some discussion we decided to make an exploratory incision. We found a typical ruptured ectopic, with at least a pint of fluid blood and recent clots in the cavity. Doubtless the immediate cause of rupture in this case, the patient having had absolutely no symptoms previously, was the straining during the attack of diarrhea and vomiting. The occurrence of rupture in connection with straining at stool, violent muscular efforts, etc., may easily lead the unwary attendant to attribute the pain rather to the inciting cause than to the true condition.

I have noted in two of the cases mentioned that the rupture occurred at the time when the next menstrual period was due, doubtless attributable to the increased pelvic congestion, so that the pain was referred both by the patient and physician to the uterine colic, which is common under the circumstances. In neurotic patients, or in those who commonly exaggerate their pain, the diagnosis is often extremely difficult, in fact, I believe that it is in this class of cases that errors are most often made. It is difficult, especially

for one who sees a patient for the first time, to decide regarding the severity and location of the pain. As you know, many women with a prolapsed ovary will complain more bitterly than others with the most serious disease of the adnexa.

I reported a remarkable case of double tubal gestation in a woman who came to my office from Brooklyn, giving a history of severe abdominal pain two or three days before, while straining at stool. She was in such good condition when I examined her, and so free from pain that I could hardly believe it possible that rupture had occurred, yet on opening the abdomen two days later, expecting to find a dermoid cyst which my colleagues and myself had diagnosticated, I found not only a live fetus with a large quantity of fluid blood, old and recent clots, but a second ectopic in the same tube, which from a careful history that I obtained afterward must have been of ten years' standing.

To mention the various conditions which have been mistaken for ruptured ectopic would be to give a formidable list. Among them appendicitis and torsion of the pedicle of a small ovarian cyst are most common. The symptoms may be almost identical as regards the sudden occurrence of pain, its localization, and the presence of a tumor on examination. If in connection with this there is a history of menstrual irregularity and vague symptoms of pregnancy, it is difficult to see how an error can invariably be avoided. At the last meeting of the Obstetrical Society Dr. Barrows presented a ruptured ectopic sac, removed through a lateral incision in which the history and location of the tumor corresponded perfectly to appendicitis. When we recall the not infrequent cases in which a diseased appendix is found adherent to an ectopic sac, it is easy to see how difficult is the differential diagnosis.

To summarize: Pain alone, when not accompanied by a clear history of menstrual irregularity, symptoms of pregnancy, and the presence of a tumor at the side of the uterus or in Douglas' pouch, known to be of recent development, is pathognomonic of extra-uterine pregnancy only under certain conditions, *viz.:* The pain is of a sharp colicky character, distinctly localized on one side, attended with faintness more or less marked, and is usually followed by intervals of hours or days of complete remission. The pulse is accelerated during the attack, but there is no rise of temperature. The latter is an important symptom distinguishing ectopic from inflammatory conditions. The violent tearing pain attending intraperitoneal rupture is accompanied by the unmistakable evidences of internal hemorrhage. In extraperitoneal rupture the symptoms vary in severity according to the amount of blood lost, but soon subside, being succeeded by the usual evidences of pressure resulting from a mass in the folds of the broad ligament which displaces the pelvic organs. A persistent pain following the acute attack may indicate localized peritonitis.

TUBERCULOUS DISEASE OF THE URINARY APPARATUS.

By J. M. GILE, M.D.,
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Tubercular disease of the urinary apparatus hardly appears to receive in our text-books the amount of attention that its frequency and seriousness might fairly demand.

Medical authorities appear to be somewhat at variance, too, in their opinions on the disease, particularly on the question of prognosis. One text will give the impression that at worst its course will be slow, with probability of longer or shorter periods of quiescence with entire absence of symptoms; while another advises you to expect a speedily fatal termination. I have heard a surgeon of wide reputation and unquestioned experience, when told that a patient had suffered for eighteen months with tuberculosis of the bladder, remark that there must have been a mistake in diagnosis or the patient would surely have been dead, instead of enjoying, as he was, fairly good health.

My own observation leads me to believe that the disease, when it attacks the urinary organs, acts precisely as it does in any other part of the body, and hence we may expect constant and wide variations in its course. Tuberculosis of a bone or joint may in one case spread rapidly and widely, eventuating in a general process that causes early death; another case may progress so slowly that by natural processes the diseased tissue is circumscribed and imprisoned, so that for years or even a lifetime it gives no symptoms. A case of pulmonary tuberculosis may bring its victim to the grave within two months of the time of invasion; while on the other hand the records of post-mortem rooms would appear to show that from twenty-five to fifty per cent. of the whole human race are at some time in their lives infected with this form of the disease, which either becomes entirely cured, or, as in the previous instance, imprisoned and harmless.

Illustrative cases of these two extremes in the progress of the disease may be of interest. We must, however, preface these cases with the admission that it may make a marked difference in the result, whether it is a kidney or the bladder that is affected; also, that it may, in many cases, be difficult to determine positively which is the affected organ.

Case I.—One of a rapidly fatal type, was in a young woman of twenty years, a school teacher by occupation, and with a record of good health. The only tuberculosis in the family appeared to be in the case of a maternal uncle who died of pulmonary tuberculosis. A rather curious coincidence in the family history is that the father and mother both died of typhoid fever, the deaths occurring far apart, both in point of time and place; one brother had the same disease, and the case in question is reported to have had it coincidently with the onset of the tuberculous trouble.

On November 1, 1898, this patient began to

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feel pain in the right side and back over and through the region of the kidney. November 7th typhoid symptoms had developed and the patient ran an apparently typical course of the disease; recovery, however, was not satisfactory, and the difficulty in the region of the right kidney became more prominent. Early in January a tumor could be determined through the abdominal wall, and examination of the urine showed pus, albumin, and tubercle bacilli. The patient was again failing, was much emaciated, and an early fatal result was clearly to be expected. She was admitted to the hospital January 18th, with a distinct tumor, which elevated the wall of the abdomen in the front lumbar region. An operation proved this tumor to be a kidney which was hardly more than a shell distended with pus and tuberculous material. The patient lived less than a week after the operation, making the entire period of illness, from the appearance of the first symptom, a little less than three months. Of course, it may be said that operation here interfered with the natural course of the disease, but I think that any one who had seen the case just before operation would have felt that it did not materially hasten the result.

Case II.—This case, illustrative of the slower course of the disease, is now under my observation. The patient is a female, of about twenty-two years of age. Her mother died of tuberculosis of the lungs; as a child, the glands in her neck enlarged, suppurated, and discharged. Her general health, however, was of the best until three years ago last fall, when she had an attack of peritonitis that kept her confined to bed nearly all the following winter. I did not see the case at that time, but the history is that there was rather high fever, complete loss of appetite, great abdominal distention and excessive abdominal pain. The physician in charge considered it a case of tuberculous peritonitis, and, from the special pain and tenderness referred to the region of the left ovary, believed this to be the primary focus from which the disease had spread.

During this illness, however, symptoms of great irritability of the bladder made their appearance; also much pain referred to the region of the kidneys. Definitely, what the examination of the urine showed at this time, I do not know. In May, following the onset of the attack in November, the patient began to improve and made a rapid recovery. The only symptoms left were recurring attacks of irritable bladder, causing frequent and painful urination and pain in the back. Two years later the patient was married and I first saw her last July when having one of the bladder attacks. She was to start for a month at the seashore the next day. She was given some buchu and a sample of urine was secured. The examination of this latter was a surprise to me, for although there was very little pus present, it yielded fully one-fourth of one per cent. albumin. The specimen was small, and, as most of it was used in chemical tests, no examination for tubercle bacilli was made. The patient had left town and I simply notified her that I found the condition such that I thought she should put herself under the care of a physician wherever she might be that summer. I saw no more of the case until November, when I was called on account of a miscarriage. This went on normally and the patient did well for one week afterward; then pain began in the region of left ovary and great tenderness developed on palpation. Abdominal distention became excessive and the patient showed the characteristic signs of an indolent tuberculous peritonitis. Examination of the urine now, as before, showed a large quantity of albumin, and staining of the centrifuged sediment for tubercle bacilli showed them to be present in large numbers. As I was anxious to have all the information that could be secured in this particular case, Dr. Kingsford carried it through a guinea-pig for me and produced a pure tuberculous infection. The quantity of albumin present, the pain in the back, which now had become a marked feature of the case, and the pelvic and renal epithelium present, clearly prove, I think, that the process affects the kidney as well as the bladder. Believing, however, that the ovary was the seat of primary trouble as far as the abdomen was concerned, I recommended operation for removal. This advice was not acted on, however, until March last, after the patient had spent the winter in bed, constantly suffering pain, with the kidney symptoms constantly in evidence, but of variable intensity. March 9th I operated and found a double hydrosalpinx, the tubes evidently permanently occluded, the walls tense and thin and the fimbriæ sealed down and obliterated. Both tubes with the ovaries were removed. The patient made a good recovery from the operation; she is completely relieved of the pain in the ovarian region, but there is still a variable amount of distention. She is up and out of doors daily and making steady progress, but bladder and kidney symptoms are still in evidence.

This patient, then, despite hereditary tendency to the disease, despite tuberculous complications elsewhere in the system, and despite the shock of operation, has resisted the progress of the disease in the kidney for over three years, and still bids fair to be comfortable for an indefinite period to come. I could multiply from my own experience instances as striking as these of the variable course of the disease, but these are sufficient and are typical, not exceptional.

The discussion of the diagnosis of the disease deserves careful study. I am satisfied that it exists far more frequently than it is diagnosticated. The only absolutely pathognomonic indication of its existence is the presence of tubercle bacilli in the urine. Although the discovery of the organisms in excretions and solid tissues has been considered a matter of difficulty and even uncertainty, the modern investigator with improved methods of staining and section-cutting, and with the aid of the centrifuge and live animal cultures, can discover them, if present, with certainty.

The use of these aids to diagnosis cannot be too strongly urged in any obscure case, or in any case in which some other cause for an existing abnormality of the urinary organs is not perfectly apparent. Particularly in tuberculosis of the bladder, I know of nothing else to differentiate it from a cystitis from other causes. And more and more, with the aid of bacteriology, we are making our diagnosis from the positive, rather than the negative, evidence of exclusion.

Perhaps this difficulty of differential diagnosis applies most often to the disease when affecting the bladder. As an aid to this diagnosis, it has been claimed that a tuberculous cystitis causes a more albuminous urine than does cystitis from other causes, but careful examination of a sufficiently large number of cases of cystitis will, I think, convince any one that the albumin is in proportion to the amount of pus and blood present, and that when much albumin is found with little pus it is pretty certain evidence of the extension of the disease to the pelvis and probably to the parenchyma of the kidney.

The difficulty of this diagnosis of bladder tuberculosis was illustrated in the case of a medical student who came under my observation two years ago.

Case III.—A man of twenty-six or twenty-seven years of age, an athlete, always in the best of health and of exemplary habits, began to have some irritability of the bladder causing frequent desire to void urine. He took simple treatment, sometimes local, sometimes internal, securing some temporary relief, but no permanent improvement. One day, while listening to a lecture on cystitis, it occurred to him that this was a tuberculous affection, and having a sample of urine examined with this in view, bacilli were readily found. This has been one of the cases of slow progress; since the onset of the disease, the man has done over two years of hard work as a medical student, received his degree, and has now gone to Colorado in a very good condition of health, with the intention of there practising his profession. This, again, I believe to be a typical case as illustrating the difficulty of making complete diagnosis, if one omits the test for tubercle bacilli, and I have no doubt that many of us have on hand cases of chronic cystitis that depend on tuberculous infection.

The cases, however, that may give us difficulty in diagnosis are by no means confined to those affecting the bladder. A tuberculous kidney may offer a considerable variety of symptoms. The condition with which it is most liable to be confused, perhaps, is renal calculus. We have already referred to the pain that is present in the kidney cases. This appears to be a very constant factor, but is rather variable in its character. Although usually described as dull or heavy, it often becomes sharp, cutting, or even spasmodic, and while usually constant, it may be, and indeed often is, intermittent and paroxysmal. In location, it is generally confined to the region of the affected kidney, yet it may shoot down the course of the ureter and into the testicle. The pelvis of the kidney is pretty certainly involved in the process with the production of more or less suppurative pyelitis; from this chills, fever and the general symptoms of a pus-infection ensue, precisely similar to the condition produced by a pyelitis resulting from an impacted calculus.

Case IV.—A case illustrating this difficulty in diagnosis, was admitted to the Mary Hitchcock Hospital in Hanover in January, 1898. The patient, a man twenty-six years old, of previous good health, but of tuberculous family, had the previous July a severe attack of pain in the left groin, that began in the morning and continued until four o'clock in the afternoon. The pain came on suddenly, was of extreme severity, was accompanied by frequent and painful micturition and followed by chills. These attacks were repeated as often as once a week until the following December, blood being passed during some of the attacks. Up to this time the patient's appetite and general health remained fairly good. But his condition then began to fail, evidence of septic infection appeared, and the pain in the left groin became more constant. Admitted to the hospital in this condition in January, the urine loaded with pus, a diagnosis was made of impacted renal calculus with resulting pyelitis. The condition of the patient was so poor, and failure had recently been so rapid, that radical operation was considered necessary. Lumbar incision was made and no stone found, but, on the other hand, a large suppurating tuberculous kidney. All the symptoms seemed to point so definitely to renal calculus that no one who saw the case deemed it necessary to look for anything farther. Of course, it is possible that his earlier attacks may have been due to passing calculi, but positive evidence of this never appeared in the passage of the same through the urethra, and the later symptoms of impacted stone were certainly due to the tuberculous process. Such experiences make me more and more inclined to have sediment examined for tubercle bacilli in all urinary cases.

There is one thing, however, that the discovery of the bacilli in the urine does not do, that is, to definitely locate the disease in a particular part of the urinary tract; whether the disease be in the kidney, ureter, bladder, or testicle. The simple finding of the bacilli in the urine indicates nothing. We must add to this the subjective symptoms as indicating cystitis in the bladder case, or, the loin pains, when the affection is of the kidney, also careful microscopical examination of sediment to determine from what point cell elements are being desquamated so rapidly as to indicate pathological processes.

When one of these organs has become involved the others are pretty sure to do so sooner or later. As to what organ is most likely to be the seat of primary affection appears to be simply a question of circumstance, that is, something has happened to render the organ non-resistant, or it has been especially exposed to infection.

The claim that it always originates in the kid-

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ney and extends to the bladder only by having the bacilli carried down with the urine is without foundation. Many bladder cases are certainly primary, and the disease extends from this organ to the kidneys by contiguous tissue apparently quite as certainly as, although perhaps more slowly than, in the other direction.

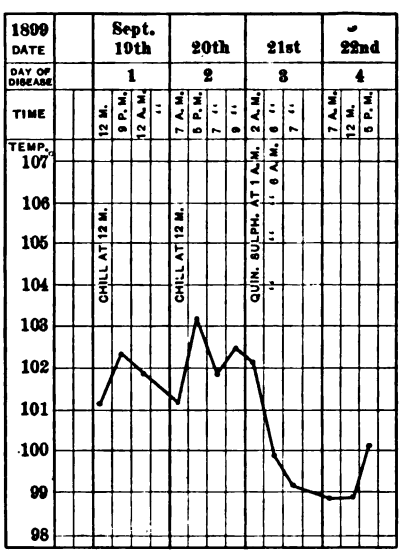
Briefly, then to conclude: The condition is one of considerable frequency, greater, probably, than the number of cases diagnosticated would indicate. Its course is quite as variable as that of the same disease when affecting other organs and may prove rapidly fatal or run a very indolent course. For certain diagnosis we must depend on the bacteriologist, but even this will not definitely localize the trouble. The hereditary character of the disease appears to be even more definitely marked than in pulmonary tuberculosis. The age incidence, from the record of my own cases, is markedly in young adult life, rather than in the middle age as frequently stated, while the location of the disease is merely a matter of circumstance and follows no fixed rule.

A CASE OF PROBABLE ACCIDENTAL INOCULATION WITH THE MALARIAL PARASITE.[1]

BY WILLIAM H. KATZENBACH, M.D.,
OF NEW YORK;
PROFESSOR OF GENERAL MEDICINE IN THE NEW YORK POLYCLINIC.

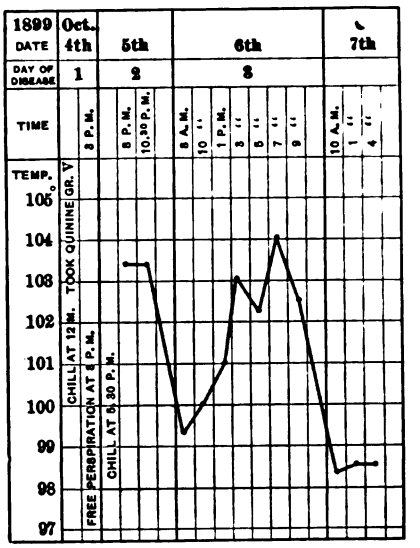
SEPTEMBER 18, 1899, Dr. X. performed a vaginal hysterectomy upon Mrs. W. On the following day, September 19th, at noon, Mrs. W. complained of chilly sensations and her temperature

FIG. 1.



rose to 101.2° F. At 9 P. M. the temperature was 102.4° F.; at midnight, 101° F. September 20th, 7 A. M., the temperature was 101.6° F. At noon she had a chill lasting about half an hour. At 5 P. M. the temperature was 103.2° F.; 7 P. M., 101.8° F.; 9 P. M., 102.4°F. September 21st, 1 A. M., the patient was given five grains of quinine sulphate. At 2 A. M. the temperature was 102.2° F.; at 6 A. M., it was 99.8° F., and an-

FIG. 2.



other five grains of quinine sulphate was administered. The quinine was continued in five-grain doses morning and evening. September 22d, 7 A. M., temperature, 98.8° F.; 5 P. M., 100.2° F. The patient ran a little temperature in the afternoon for several days. This varied from 99° F. to 100.2° F. (See Chart I.)

October 4th, Dr. X. had a chill at noon lasting half an hour. He took five grains of quinine sulphate at its beginning. At 3 P. M. his temperature was 103° F. At 8 P. M. there was a copious perspiration. October 5th he felt well, ate a good breakfast, attended to work during the day, but went to bed at 5 P. M. At 5:30 P. M. he began to yawn and feel chilly, and took five grains of quinine. At 8 P. M. the temperature was 103.4° F.; it was 103.4° F. at 10 P. M., at which time he was seen by the writer.

Physical examination failed to reveal any evidence of local disease. The spleen was palpable. Malarial infection was suggested as the condition, and a blood-examination was recommended. At this time Dr. X. recalled the circumstances of Mrs. W.'s attack, which yielded to quinine, and also the fact that several times during the operation he had pricked his finger with the needle he was using. Quinine was ordered.

October 6th at 8 A. M. the temperature was 99.4° F.; 10 A. M., 100° F.; 1 P. M., 101° F.; 3 P. M., 103° F.; 7 P. M., 104 F°. There was not any chill this day. October 7th, at 10 A. M., the temperature was 98.4° F.; 1 P. M., 98.5° F.; 4 P. M., 98.5° F. (See Chart II.) He continued the use of quinine for several days and remained well until October 30th, noon, when he had a chill lasting twenty minutes, during which he took five grains of quinine. At 1 P. M. the tem-

[1] Reported at the meeting of the New York Clinical Society, December 22, 1899.

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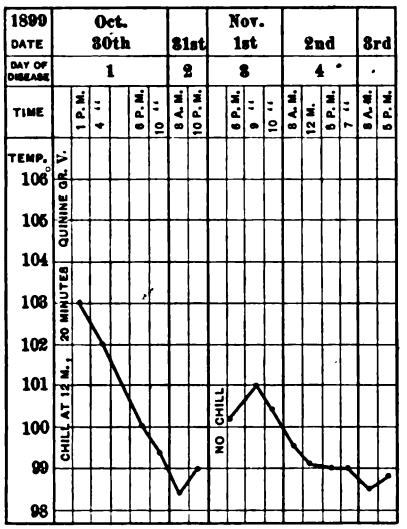
perature was 103° F.; 4 P. M., 102° F.; 6 P. M., 100° F.; 10 P. M., 99.5° F. October 3d, 8 A. M., temperature 98.4° F.; 10 P. M., 99° F. November 1st, the morning temperature was not taken; at 6 P. M. it was 100.4° F.; 9 P. M., 101° F.; 10 P. M., 100.6° F. November 2d, 8 A. M.,

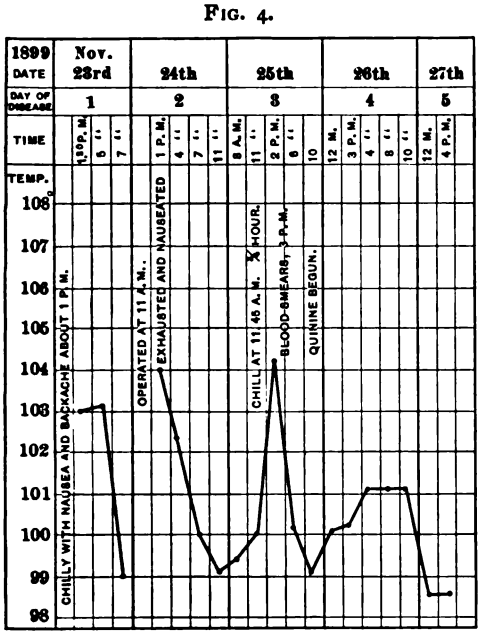
FIG. 3.



99.6° F.; 12 M., 99.2° F.; 5 P. M., 99° F.; 7 P. M., 99° F. (See Chart III.) During this attack he took quinine for several days, but was not seen by the writer.

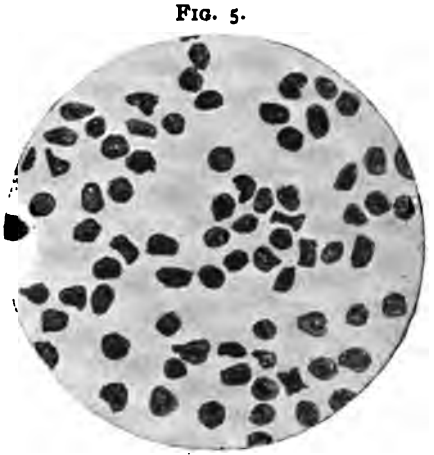
November 23d, at 1 P. M., he "began to feel a little nausea and backache, and a creepy feeling

FIG. 4.



came on." At 1.30 P. M. the temperature was 103° F.; at 5 P. M. it was 103.2° F. He had severe headache. The spleen was distinctly palpable. Evidence of local disease was not present. He was urged to have a blood-examination made, and, pending this, he was requested to take no quinine. At 7 P. M., after an alcohol rub, his temperature was 99° F. Calomel was given at night to be followed by a Seidlitz powder in the morning. November 24th he felt well enough to go out, and operated on a patient from 11 to 12:30, after which he felt exhausted and nauseated. At 1 P. M. his temperature was 104° F. At 3 P. M. blood-smears were taken by Dr. Jeffries. He went home and to bed at 4 P. M. with a temperature of 102.4° F. At this time there were not any local symptoms present. He was given an alcohol rub. At 7 P. M. the temperature was 100° F.; 11 P. M., 99.2° F. November 25th, 8 A. M., temperature, 99.4° F. At 9 A. M. he received a report of the result of the blood-examination, showing that the malarial parasite was present, and he immediately took Warburg's tincture. At 11:45 A. M. he had a chill which lasted until 12:30 P. M. At 2 P. M. the temperature was 104° F.; 6 P. M., 100.2° F.; 10 P. M., 99.2° F. At 9:30 he had taken five grains of quinine sulphate and during the night

FIG. 5.



Normal and infected corpuscles as they appeared magnified 540 diameters.

he took ten grains more in divided doses. November 26th, he did not have any chill. At noon his temperature was 100.1° F.; 4 P. M., 101.2° F.; 8 P. M., 101.2° F.; 10 P M., 101.2° F. November 27, 7 A. M., he took five grains of quinine, and at 9 A. M. he was given an alcohol rub. At 11 A. M. temperature was 98.5°F.; 4 P. M., 98.5° F. Quinine has been continued in small doses, on account of easily produced cinchonism, up to the present date with no return of fever. (See Chart IV.)

Mrs. W. has always lived in a malarious district in North Carolina. Her physician writes, December 7, 1899, to Dr. X.: "She had a few chills daily last December, but took quinine and has had no return until with you after the operation. She has had none since, unless it be a very slight one November 1st, which she followed with quinine and has had no return of symptoms. She says about eight years ago she began to have quotidian chills almost regularly for a period of four years, then had none until last year, as above

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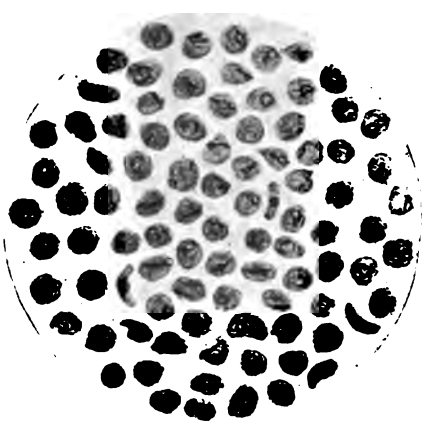
mentioned. I have not had any blood-examination made."

Dr. X. had two attacks of chills and fever in 1866, while living in Wisconsin, during a period of from four to six weeks, each lasting about a week. He has been a resident of New York for twenty years. He was at Seabright, N. J., from July 3d to 20th, this past summer, and in New Hampshire from July 25th to September 15th.

The following was received from Dr. Jeffries: "As per request, I called upon the doctor November 24th to take a sample of his blood for examination. I found him in his office with a temperature of 104°F. A number of smears were made from the peripheral circulation, and immediately taken to the laboratory for examination. Stained with eosin and methylene blue, a great number of malarial parasites of the estivo-autumnal variety were observed. It is rare, indeed, that I have seen malarial blood with so great a number of corpuscles acting as hosts to this parasite. It is quite difficult to find a field with a $^1/_{12}$ inch objective that does not contain several of them. They are of the variety represented in the drawings accompanying this report. As you can see, it is of the particular type of estivo-autumnal considered by some as a distinctive class, which they call quotidian."

The malarial parasite has never been found in the air or soil or water of a malarial district. It has been supposed that malarial infection takes place through the respiratory or digestive tract, or by the skin from insect bites. (Thayer.) But efforts to infect by means of inhalation of dried and powdered blood containing the parasite have not been successful; and failure has invariably attended the ingestion of water from marshes in malarial regions, and of blood from infected individuals. Inoculation has been produced over

FIG. 6.

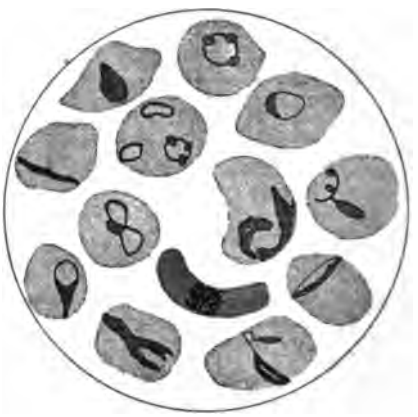


Invaded corpuscles from one slide demonstrating the multiplicity of involvement.

and over again by intravenous and subcutaneous injection of blood containing the living malarial parasite, and "the type of the fever and that of the parasite in the inoculated individual are always the same as in the patient from whom the blood is taken." That mosquitoes, or, to be more precise, certain species of the mosquito, are the carriers of the infection is a theory which is increasing in favor, and facts are accumulating to warrant and strengthen this theory.

The experiments of Ross, of the numerous Italian observers, of Koch, and of others, with

FIG. 7.



A portion of Fig. 6, enlarged *2000* diameters.

the Anopheles are familiar to those who are interested in the study of malaria. Their conclusions are that the Anopheles is the extracorporal host of the malarial parasite. Every recent writer refers to the results of Theobald Smith, who demonstrated that the cattle-tick conveys the Texas cattle-fever from one animal to another, and from this argues the possibility of the conveyance of the malarial parasite to man by the mosquito.

Manson believes that "the quartan, the tertian, the estivo-autumnal parasite, each has its special species of mosquito as its special extracorpuscular host; that the malaria parasite inhabits man when it gets the chance; that it can pass from man to the mosquito, and that it can pass from mosquito to man." Celli says that malaria is an "inoculation disease."

In the light of the above it is not difficult to conceive that Dr. X. was inoculated by the needle while operating on a patient in whose blood at the time of the operation a group of parasites was passing through its cycle of development, for within twenty-four hours she had her first paroxysm. Only a few days before the operation she had come from North Carolina—a section of our country where the estivo-autumnal type of the parasite prevails. This form of parasite is not found in the blood of patients infected in the ordinary way in the vicinity of Manhattan. Dr. X. had not, so far as he knows, been exposed to malarial influences for years. When he returned to the city from his vacation on September 15th he considered himself in robust health.

Jewish Hospitals.—The proceeds of the Hebrew Charity Ball, held in Philadelphia February 20th, were $19,656. This amount has been distributed among the various Jewish hospitals and homes in the city.

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THE CURABILITY AND TREATMENT OF EARLY PHTHISIS.[1]

BY W. F. HAZELTON, M.D.,
OF SPRINGFIELD, VT.

OVER a decade ago, while an interne in Bellevue Hospital, the writer's attention was directed to some cases of pulmonary tuberculosis which had undergone arrest and cure and which were retained as pensioners of the hospital. The late Dr. Austin Flint was in the habit of showing them in his clinic as illustrations of what he termed "the self-limitation" of that disease. Although pathology had been teaching that healed areas of tuberculosis of the lung were not uncommon, yet the knowledge was sufficiently rare to occasion surprise at clinical demonstrations of its truth. At the end of my term of service as interne I spent over a year in the Adirondack Mountains and in Colorado, seeing many cases of phthisis in both regions, when I was again still more impressed by the considerable number who actually got well. Believing, then, that pulmonary tuberculosis in its early stages is susceptible of arrest and cure, I have undertaken to bring together a few of the observations which have been made during the past decade which tend to substantiate this belief.

In 1889, Vibert,[1] examining the register of necropsies of the Paris morgue, was struck by the fact that in 131 individuals of from twenty-five to fifty-five years of age, having all succumbed to violent or sudden death, it was noted that the existence of pulmonary tuberculosis was recognized in 25; in 17 of whom the malady was in a cretaceous or fibroid state, *i. e.*, of tubercle cured.

Flick[2] says "were it not for autoinfection most cases of tuberculosis (outside of the cranium) would get well. In every case which has ever come under my observation, there was a decided effort on the part of Nature to establish a cure."

Loomis[3] presented to the American Climatological Association an analysis of 41 cases dead from non-tuberculous disease, in which there were traces of cured tuberculosis. In 38 patients the lung showed a firm adhesion to the costal pleura. (Section showed numbers of fibrous nodules scattered throughout the apices, continuous with adherent pleura.) Cheesy or calcareous masses were usually found in the center of these fibrous nodules. Six cases showed small closed cavities. In a few instances linear cicatrices were observed as marking the site of closed cavities. In two instances the entire upper lobe of the lung formed a homogeneous fibrous mass. Histological examination showed a more or less completely organized fibrous tissue. This tissue had originated either by a small-celled infiltration of the interlobular tissue of the alveolar walls or of the tissue about the vessels or bronchi; by contraction, the occlusion of these was produced. Tubercle bacilli were found in one or two sections. The result of inoculation experiments varied.

Coats[4] reports that in 131 autopsies performed within ten months, 28 showed active tuberculosis; of the remaining 103, 24 cases, or 23 per cent., showed evidence of healed tuberculosis.

Fowler,[5] in an analysis of 1943 autopsies at the Middlesex Hospital, between 1879 and 1886, found that 177, or 9 per cent., showed obsolete tubercle in the lung. Subsequent to this, out of 445 consecutive autopsies, 42, or 9.4 per cent. are reported by Martin[6] as showing retrograde tubercle.

Wolff[7] reports after an interval of fifteen years that of patients suffering from marked tuberculosis who were discharged from Brehmer's famous institute at Goerbersdorf 8 per cent. can be considered cured.

H. P. Loomis,[8] analyzing 1146 autopsies at Bellevue, reports as follows: (1) Out of 763 dying of non-tuberculous diseases 71, or over 9 per cent., at some time in their lives had had phthisis from which they had recovered. (2) The new fibrous tissue by which the advance of the disease was apparently checked and the cure effected developed principally by round-cell infiltration of the interlobular connective tissue which in some instances had increased to an enormous extent. Some of the new fibrous tissue was formed later by round-cell infiltration in the alveolar walls and around the blood-vessels and bronchi. Pleuritic fibrosis appears to be secondary to tubercular processes in the lung substance. The interlobular connective tissue is the primary and principal source of the fibrosis. (3) Tubercle bacilli were present in the healed areas in three out of twelve lungs examined. These healed areas did not differ in gross or microscopical appearance from those in which they were not found. (4) Thirty-six per cent. of all cases in which the lungs were free from disease showed localized or general adhesions of the surface of the pleura.

Knopf, in a recent address at the annual meeting of the Conference of State and Provincial Boards of Health of North America at Detroit, says: "The greatest chance of a predisposed individual being taken sick is between the age of puberty and thirty. The chances of the disease becoming healed without ever having been discovered are between 20 and 25 per cent. I am in position to verify this percentage by statistics which I have compiled for my book on tuberculosis. Besides reviewing the vast literature on the subject I addressed three hundred letters of inquiry to the leading pathologists of the world, and, as a result, I can say that out of every 100 autopsies made on people having died accidentally or of disease other than tuberculosis, 20 to 25 showed evidence of healed tuberculous lesions (cicatrization or calcareous formation). The chances for the disease being cured in from six to nine months, if it is discovered at an early period, are at least 50 per cent."

Such, then, are some of the pathologic and

[1] Read before the Vermont State Medical Society.

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clinical proofs of the curability of pulmonary tuberculosis. They are by no means exhaustive of the subject, but sufficient, I believe, to establish the fact that from 10 to 50 per cent. of cases, depending upon the individual resistance to the disease, and the timeliness with which treatment is begun, are curable.

Treatment.—Within a generation, or even less, the opinions held in regard to the treatment of phthisis have undergone important changes. Following Koch's discovery of the tubercle bacillus, the therapeutist hoped to cure the disease by killing the germ in the respiratory organs and passages. To accomplish this end the introduction of various germicides into the air-passages and the lung was tried. Intrapulmonary injections and inhalations of vaporized solutions of different germicides occupied the professional mind for a time, until they were proven by bacteriological experiment and clinical experience to be utterly useless.

Tuberculin is accredited as yet, by the majority of observers, with no field of usefulness except in that of diagnosis of animal tuberculosis. Many laboratory workers still cling to the hope of destroying the bacillus, or its pabulum, by a modified tuberculin, or by some antitoxin not yet discovered.

At the recent Congress for Hygiene and Dermatology, held April 12th, 1898, in Madrid, Professor Behring, the discoverer of diphtheria antitoxin, said that it has been so far impossible to obtain from mammals a remedial antitoxin which acted with certainty in man or animals, and he would have to look somewhat skeptically upon the antitoxin treatment of tuberculosis, had not Ransom in his (Behring's) laboratory in Marburg discovered a species of birds which met the requirements for the production of an effective tuberculosis antitoxin more satisfactory than do mammals. What might be gained in practice by this surprising as well as encouraging fact must be left, he said, to future developments. After referring to some of the conditions that obstruct a rapid progress in combating human tuberculosis with a specific antitoxin, Behring arrived at the conclusion that "it will still take a long time before we shall be able to speak of a practically serviceable serum-therapy of tuberculosis." Hence, as we cannot kill the tubercle bacillus directly by a germicide, or successfully combat its baneful influence by an antitoxin, we are compelled to attack him indirectly, endeavoring to render the tissues of the host, our patient, an uncongenial soil to live upon. And this we accomplish by improving the condition of our patient by the aid of food and hygienic living in the open air.

Dujardin-Beaumetz,[9] speaking of the therapeutics of phthisis, says, "We must fall back upon alimentation and hygiene; and after alimentation in importance comes climate. Oxygenation is the great point and as much open air as possible, no matter where it is, but best where the temperature is not over 60° F. in the winter. In a word, we have to confess that we are reduced to alimentation and respiration of pure air in this disease." The late Dr. Loomis said that six meals should be taken in the twenty-four hours; that the food taken at any one meal should be such as is digested in the stomach or intestines alone, *i. e.*, fats, starches and sugars should not be mixed with albuminoids, to any extent, and that no food should be taken while suffering from fatigue, worry or excitement. Rest is the great conserver of energy, and as frequent and prolonged periods should be taken as the patient's condition demands. Exercise for the most part should be passive, never violent, nor carried to the point of fatigue. Anything which markedly quickens the pulse is a distinct injury to a phthisical patient.

The neglect of these simple rules of hygiene and diet many a time has cost a sufferer his life, even when he was living under the most favorable climatic conditions, while their strict observance under medical supervision has oftimes resulted in a cure. Although an atmosphere free from moisture, with abundance of sunshine and an altitude of from two thousand to five thousand feet above the sea, is the ideal one for a consumptive, the results which of late have been obtained in sanatoria, whatever their geographical location, are so distinctly favorable as to prove conclusively the paramount importance of open-air treatment, strict hygiene, and over alimentation, or forced feeding.

The belief is gaining ground among modern phthisiotherapeutists that no climate is a specific for phthisis, and that more permanent results may be obtained by curing these cases in the early stage of their disease, near their homes where they are afterwards to live and work.

The least favorable results obtained in sanatoria devoted exclusively to the treatment of consumption are, according to Knopf (*Medical Record*, February 13, 1897) as follows: Absolute cures, 14 per cent.; relative cures, 14 per cent.; amelioration, 42 per cent.

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[5] British Medical Journal, October 31, 1892.
[6] British Medical Journal, October 31, 1892.
[7] Schmidt's Jahrbücher, Leipzig, October 13, 1892.
[8] Medical Record, New York, January 9, 1893.
[9] Bulletin général de thérapeutique, May 15, 1890.

The Chicago Presbyterian Hospital.—The work of raising funds for the purpose of enlarging and improving this hospital has just begun, and a circular has been issued requesting subscriptions. The objects for which funds are desired are a new electric-light plant, $6,000; for the ladies' furnishing fund, $3,000; for 16 additional beds, $1,000; for a steam sterilizer, $1,000, and to meet the deficit, $3,500.

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CLINICAL MEMORANDUM.

LATERAL SINUS THROMBOSIS AND ACUTE SEPTO MENINGITIS BOTH COMPLICATING ACUTE SUPPURATIVE OTITIS MEDIA; COMPLETE PERFORMATION OF THE CRANIAL WALL ABOVE AND EXTERNAL TO THE ANTRUM.[1]

BY WENDELL C. PHILLIPS, M.D.,
OF NEW YORK;
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Case I.—M. F., aged fifty years, presented himself at my clinic at the Manhattan Eye and Ear Hospital, November 12, 1898. Eight weeks previously he had suffered from a severe pain in the left ear, followed in a few hours by a very slight discharge. The discharge lasted at intervals up to three weeks previously, since which time there had been none. During this time the pain had been almost constant. About two weeks before admission leeches had been applied over the mastoid by his family physician. This pain although localized generally over the region of the mastoid gradually extended over the left hemisphere and especially over the lateral and longitudinal sinuses. For the past two weeks he has suffered from chills and vomiting. The chills have increased in frequency and have been accompanied with considerable prostration. During the time of the first examination he had several distinct rigors. His appearance was somewhat septic and his tongue coated. The membrani tympani looked very thick and fibrous and with slight bulging over the attic region. There was no swelling over the region of the mastoid and but little tenderness.

The patient is poorly nourished. The skin dry and appeared to have a somewhat icteroid hue. Tongue thickly coated with a grayish-brown furring. Bowels constipated. Pulse 110, but weak and somewhat irregular. Temperature 101.4° F. Patient complains of pain over the left side of the head, especially over the mastoid, which is increased slightly on pressure over that region. No swelling nor edema over the mastoid. There is a very slight mucopurulent discharge from the canal. The patient's general appearance, history, and his symptoms led me at the very first examination to feel that this was a case of infective sinus disease, and this diagnosis was ventured. His symptoms seemed to me clearly to warrant such a diagnosis, and they certainly followed out the symptoms of this disease as decribed by MacEwen.

The patient consented to operation which was immediately done. He even had a chill just before the administration of the anesthetic. Previous to opening the mastoid wound a paracentesis was done, but no pus was found. The usual mastoid opening was made. The surface of the bone was somewhat congested and blood oozed freely from the surface generally. With gouge and chisel the mastoid table was removed, the cells opened and the antrum exposed, and through-and-through drainage was established, but with no sign of pus. Attention was then directed toward the mastoid tip, but not until the end cells had been reached was there any pus found, and then but a very small quantity.

The bone in this case was unusually flinty, so much so that several chisels were broken. The lateral sinus was then exposed and, not pulsating, it was opened for about one and a half inches, no bleeding followed the incision. There was no indication of any involvement of the internal jugular vein.

The incision extended from above and posterior to the angle through the sigmoid and well down toward the jugular bulb. Small masses of clotted blood were then removed from the sinuses with a curette. The curette was passed downward and all masses removed until there was slight bleeding. Posteriorly a curved groove was passed far backward and all granulation masses and clots were removed. Slight bleeding was established from the region of the torcular and the wound was thoroughly cleansed and both sinus and wound packed with iodoform gauze. The patient suffered considerable shock, but reacted promptly under hot applications and stimulants.

On November 13th the general condition seemed considerably improved. The wound was dressed and found perfectly clean and dry and the sinus wound was closed. After the operation his temperature became normal and at 3 A.M. the following morning it had gone down to 97° F. By noon of the same day it had reached 102° F. For several days the temperature varied from 100 to 102° F. and did not again reach normal until November 21st and even after this time it varied until November 22d, when it became normal and from that time remained practically so until his discharge.

November 15th, the wound was dressed and found clean and dry. November 17th, the wound was dressed and there was a slight serosanguineous discharge near the jugular bulb. This was cleaned with peroxide of hydrogen and dressed as usual. November 21st, the wound dressed dry and clean. The patient complained of pain in the limbs. He was given milk-punches and one-sixtieth of a grain of strychnine three times a day. November 25th, the wound dressed, a small area of exposed bone was found in the sinus. December 6th, wound was dressed, the opening in the antrum closing up, dressing was clean and dry. December 26th, condition the same. Area of exposed bone nearly covered.

From January 1st the sinuses were treated by the carbolic-acid method, as described in a previous paper, where it will be seen the wound closed in fourteen days. The case has since remained well and the man has returned to his usual occupation.

The chief point of interest in this case is the

[1] Read before the American Laryngological, Rhinological and Otological Society at its fifth annual meeting.

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fact that the diagnosis of infective sinus disease was made in a comparatively early stage of the disease and with but slight mastoid or middle-ear symptoms, thus doing away with the necessity for the more radical operation of the opening or removal of the internal jugular vein.

The advantages of an early diagnosis in sinus disease cannot be overestimated and it would seem to the writer that our efforts should be largely expended along this direction. To be sure many of these cases do not come under our observation until they have become extreme, but in the light of present developments along this line even the general practitioner will gradually come to recognize the importance of the help of the otologist even in the care of simple suppuration.

Case II.—M. B., aged forty-seven years; housewife; was first seen October 29, 1898. Her history is as follows: Three weeks ago she began to have pain in the right ear. For many years she had been subject to neuralgic pains in the head, which were usually worse on the left side. The ear began to discharge, after a few hours, a creamy pus, which continued. The discharge was rather profuse, with pain more or less severe over the right side of the head. Three days before admission to the hospital the pain became very severe and seemed to localize behind the ear. She never had had previous attacks of suppurative middle-ear disease. Up to the time of her admission to the hospital she had attended to her usual household duties, and while suffering considerable pain she had been up and about all the time. She had not had any chill, fever nor vertigo. The diagnosis of acute mastoiditis was made and she was admitted to the ward.

The patient was a well-nourished, strong looking woman. Her complexion was slightly pasty and her mucous membranes anemic. Deep pressure over the mastoid elicited pain and there seemed to be very slight swelling over its upper portion. Calomel was administered internally, and, believing it to be a case of really acute inflammation of the mastoid, the ice-coil was used. The canal was cleansed with a hot boric acid douche every two hours.

October 30th the swelling had subsided and there was no pain on pressure over the mastoid, but the patient complained of headache, mostly occipital. In the afternoon she had a very slight chill which was followed by sweating. Her temperature at the time of admission had been 103° F., but it subsided and by 3 A.M. the following morning had reached nearly normal. October 31st she still complained of the occipital headache, but pain over the mastoid was absent, swelling and the discharge were somewhat lessened. The ice-coil was discontinued. The existing pain was more general in character and the patient complained very little of the ear. November 1st, patient slept well last night. Still complained of headache all over the head. November 2d, less headache, but now complains slightly of pain in the lumbar region and extremities. No increase of pain on pressure over the painful area and no signs of inflammation of the joints. November 3d, patient did not sleep well. Still complains of pain in the back and limbs. November 3d, did not complain of any increased pain in the head and there was no increase of tenderness of the mastoid tip, although it remained slightly tender.

Patient was up and about the ward. The temperature had remained normal. During these days the pulse had varied from 80 to 102 and the temperature had at no time been above 102° F., remaining most of the time at from 99 to 100° F. On this day I was detained and did not get to the hospital, so I did not have an opportunity to examine her. November 4th, during the night the patient became somewhat restless and about 4.30 A.M. the night nurse first noticed a change for the worse, but even at this time the patient

FIG. 1.

Exterior surface of right temporal. A. Auditory meatus; B. Mastoid Process; C. Perforation of Abscess.

was out of bed and used the commode, but her mental condition was not good and in a short time she became somewhat delirious, and still complained of pain in the back. The condition became rapidly worse and at 6.45 A.M. she was unconscious, pupils contracted, reaction sluggish, particularly in the right eye, limbs became somewhat rigid and semiflexed, the face pallid and the skin cold. I was telephoned for and reached the hospital at 7.45 A.M. At this time there was no pupillary reaction, the respirations were shallow and there was loss of sensation in the left arm. The face had now become flushed and she was perspiring freely. At this time it was almost impossible to count the pulse, but it had gradually become slow. At 4 A. M. it was 60. Directions were given to prepare for operation, but her condition became so rapidly worse that it was abandoned and she died at 10.30 A.M.

Autopsy was performed the same day. The tympanum and mastoid were full of pus, the dura over a portion of the right side was thickened and adherent to the petrous portion, otherwise the dura was in a healthy condition. There was a subarachnoid infiltration of pus, indicative of general leptomeningitis. All the sinuses were in a

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perfectly healthy condition. Careful section of the brain-tissue showed no abscess cavities in either cerebrum or cerebelli. The entire mastoid process, excepting the tip, was one large abscess-cavity. There was a perforation through the external wall nearly one-fourth of an inch in diameter. The internal wall was entirely gone and the necrosis had extended entirely around the sinus and pus had perforated the adherent dura posterior to the tegmen tympani. The walls of the sinus were somewhat thickened. From the appearance of the specimen the pus seems also to have entered the labyrinth. The brain-tissue was not involved, there being no abscess of cerebrum or cerebellum. (See Fig 1.)

This patient was examined by several members of the staff during the early part of the time she was in the hospital, but no one suggested a cerebral complication. The conclusions to be drawn from this history would seem to be: The ice-coil should not have been used; that it masked the symptoms and reduced the external inflammatory swelling, the tenderness and temperature, there can be no doubt. An early operation would have saved her life. Further, that the extensive leptomeningitis could possibly have been present in a case manifesting so few meningeal symptoms either of the eye, or of the mental faculties, or of loss of sensation and motion, seems almost incredible. It would almost seem that there must have been a sudden escape of pus through the perforation and that its presence over so large a surface of brain-tissue gave rise to the sudden condition of shock from which she suffered early on the morning of her death. In all cases of mastoid inflammation in which there is no external swelling or even marked indications of the disease, the ice-coil should be resorted to with caution.

Autopsy showed tympanum and mastoid full of pus with a perforation in the roof of the tympanum. No sinus involvement. Subarachnoid infiltration of pus. No abscess of cerebrum nor cerebellum. Microscopical sections taken from cortex on left side of frontal lobe show thickening of arachnoid; a subarachnoid infiltration of densely packed leucocytes, many of which are polynuclear; slight thickening of the blood-vessels which are full of red blood-cells. The pia mater is apparently thickened, but is almost indistinguishable from the infiltration. The leucocytes follow slightly the processes of the pia, which dip into the cerebral tissue. The indications are, therefore, that the cerebrum would soon have become involved. The right optic nerve shows swelling of the nerve-bundles which encroach on the connective-tissue interspaces. The sheath is slightly distended. The left optic nerve is normal. Diagnosis: Leptomeningitis. Signed: C. W. Kinney, M.D., and E. S. Thomson. M.D.

Drs. Weir and Bull Resign.—Upon notification of their recent appointments at Roosevelt Hospital, both these gentlemen resigned their positions at the New York Hospital.

MEDICAL PROGRESS.

Ankylostomyasis in Puerto Rico.—Cases of severe anemia have been very frequent in Puerto Rico for many years and are usually attributed to poor food, malaria, or the peculiarities of the climate. B. K. Ashford (*N. Y. Med. Jour.*, April 14, 1900) has recently investigated twenty rather typical cases with the hope of discovering some specific cause, and from nineteen of these patients he has obtained the eggs of Ankylostoma duodenale. The conditions are most favorable for the spread of this condition since the island is very thickly populated, the food poor and carelessly prepared and sanitary precautions are almost unknown among the poorer classes. The symptoms are variable, but usually consist of poor appetite, some nausea and vomiting, pain in the epigastrium, either constipation or diarrhea, swelling of feet and ankles, dizziness, headache, progressive debility, fever sometimes but no chills. There is seldom much loss of weight. The anemia is frequently severe and accompanied by the usual secondary signs. A careful blood-examination was made in all the cases and it was found that a low hemoglobin average and very low color index were the rule. Leucocytosis when present was probably due to complications. Normoblasts were frequently present and sometimes megaloblasts. Poikolocytes were common although some authorities deny this. A marked eosinophilia was noticed in many cases, even forty per cent. in one patient. A thorough investigation has not yet been made, and the number of patients examined thus far is so small that it is impossible to draw any conclusions in regard to the prevalence of the disease in that island, but it seems reasonable to suppose that a goodly percentage of the poorer people are thus afflicted. Thymol and aspidium were successfully used as anthelmintics.

New Method of Printing Books.—The *New York Medical Journal* (April 14, 1900) contains an article by F. G. Murphy endeavoring to show how injurious books are to the eyes. He shows how the curved page of a book when opened causes a constant change of the focus of the eye as it reads from one side to another, necessitating a continued effort on the part of the ciliary muscles. The light also usually falls unequally upon both sides, further interfering with a continued clear field of vision. He suggests, therefore, that the printed lines run parallel to the binding instead of at right angles to it so that all parts of the line would be at equal distance from the eyes and be equally lighted.

Pseudoneuralgic Form of Chronic Vertebral Rheumatism.—H. Forestier of Aix-les-Bains, who has had a wide experience in the treatment of rheumatism by the general douche-massage method, reports several peculiar cases in the *Medical Record* (April 14, 1900). The patients are slightly bent forward and cannot straighten the

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body without great pain. They walk slowly, feet far apart in many instances. The neck is not involved and the patient is not so stiff as in the Bechterew type. They complain of various pains irridating from the back, intercostal pains, girdle pains, radiating through the lower limbs simulating sciatica. They are increased by movements of the trunk and a very peculiar feature is the backache in the early morning or when the patient has been lying down for some hours. No marked sensory troubles, no paresthesia, or no trophic changes exist, but there may be a certain degree of wasting and flaccidity. The knee-jerks are usually exaggerated. An examination shows no deformity of the spine, but an absence of the normal lumbar curve or a slight posterior curve. There is no ankylosis, movement being possible, although causing great pain. The stiffness is due to the protective contraction of the muscles. Tenderness on pressure is marked along the spines and lateral processes, and also along the lower intercostal spaces and over the upper sciatic nerve. The dorsolumbar region is thus mostly affected, the neck being rather seldom involved. There is no tenderness in the loins which is not in favor of a primary myosotis. Most patients give a history of more or less trouble with acute or subacute articular rheumatism. The treatment employed at Aix-les-Bains is to give the patient a general douche-massage applied by two masseurs, especially to the back, the patient lying in a reclined posture. The temperature of the water is about 85° to 90° F., and the massage is continued for ten to twelve minutes.

Myocarditis Following Rheumatism.—Endocarditis and pericarditis are, of course, always carefully watched for during and after an attack of acute rheumatism and that they account, in a of the signs pointing to those conditions is usually considered sufficient evidence that the heart has escaped the rheumatic poison. In the *Bristol Medico-Chirurgical Journal* (March, 1900) T. Fisher expresses the opinion that myocardial changes are not at all infrequent complications of acute rheumatism and that they account, in a great measure, for the variability in the severity of symptoms accompanying valvular lesions. He reports several acute cases of rheumatism resulting fatally in which no pericardial or endocardial signs were noted and in which the autopsies disclosed an advanced myocardial degeneration with very little endocardial change. The weakening of the cardiac muscle may result in a dilatation and a relative insufficiency of the mitral valves, which may stimulate an active endocardial murmur.

Early Diagnosis of Aortic Aneurism.—An early diagnosis of aneurism is of considerable importance, not only on account of the more accurate prognosis of the case which may be given, but also because the treatment is of far greater value if begun in the early stages. M. Schmidt, a laryngologist, has reviewed the symptoms of this malady in the *Medical Chronicle* (March, 1900), laying special stress upon the two methods of diagnosis which have been made use of during the past few years, tracheal tugging and the Röntgen rays. Of his 54 cases, 38 had paralysis of the left vocal cord, and in 5 there was paralysis of the right vocal cord. Out of 31 cases in which tracheal tugging was tried it was demonstrated in 19, and he regards it as one of the most decisive symptoms in the early stages. The illumination by means of the Röntgen rays is most satisfactory, provided the tumor is large enough to be visible by the side of the vertebral column. A number of radiographs are shown in which the diagnosis could hardly be mistaken. Among other diagnostic signs he mentions dulness over the manubrium sterni and, close by it, diffuse pulsation in the upper intercostal spaces, and the differences in pupils and radial pulses. The aneurismal murmur is very inconsistent, Sarcoma of the mediastinum may simulate aneurism, since it may present marked pulsation. If, however, one meets with a recent paralysis of the left vocal cord in a man of middle age; if tracheal tugging and inequality of the pulse are present, as well as pulsatory signs in the region of manubrium; if the Röntgen rays show the shadow of a pulsating mass, one is certainly justified in making the diagnosis of aortic aneurism, since it is by far the most frequent tumor of the mediastinum. Although syphilis is, no doubt, the chief predisposing cause, the author lays considerable stress upon trauma and strain. Only two of his cases were females, and he quotes many statistics to show that heavy work is an important factor. As regards treatment potassium iodide is always used and, when a history of syphilis is obtained, mercurial inunctions are indicated, at least for a time. He also advises absolute rest in bed and a marked reduction in the fluids. Trefnell's reduction of fluids to 240 grams in twenty-four hours can be reached only gradually, and this diminution must be kept up for several weeks, although it is not always possible to limit the fluids to such a small amount. The internal use of calcium chlorate to aid coagulation of the blood has not proven efficacious. In the hands of some electrolysis seems markedly beneficial, but it is a very dangerous procedure.

Actinomycosis.—This occurs usually in the cervicofacial and pulmonary regions, but has also been found, says Antonin Poncet (*Bull. de l'Acad. de Méd.*, April 2, 1900) in the intestine, liver, kidney, breast, and in the regions of the umbilicus, bladder, prostate, anus, vulva, meninges, and brain. The diagnosis is made clinically by the subacute or chronic course with occasional exacerbations, the hybrid aspect, both inflammatory and neoplastic, the pleurality of the fistulæ and their torpid, capricious evolution with cicatrization of old fistulæ in the immediate neighborhood of fresh foci. About the face and neck it is often quite painful, and there may be early tissues from involvement of the muscles, yet, in

spite of numerous fistulæ and ulcers, there is no glandular enlargement. The diagnosis is confirmed by finding the characteristic yellow granules with a rayed appearance under the microscope, yet these may be discovered only after repeated examinations, and sometimes not until months after the clinical diagnosis has been positive. These yellow grains are abundant only in recent foci and the rayed appearance may be replaced by other forms of the parasite, the incurved mycelium, the branching, and the spore forms. In old fistulæ the fungus is deeply embedded in the walls of the tract; in mixed infections it often cannot be found at all. The disease is most common among those who handle grain, and the primary focus is almost always in the alimentary tract. The intestinal and liver lesions are sometimes taken for neoplasms. The prognosis is unfavorable, especially if neighboring soft tissues have been infiltrated; the temporomaxillary type with involvement of the muscles is incurable, and invasion of the base of the brain may result in early death. All the lesions are very persistent, recurrences are common, and metastases have been frequently met with. Where possible, free excision promises the best results, and in all cases, even if operated upon, the iodides should be given in large doses, up to three drams a day. This is not a specific, but in many instances retards the growth of the fungus. In pulmonary cases, inhalation of eucalyptol has proven of benefit.

Tuberculins and Their Use.—Two different preparations have been used under the name of "tuberculin" for the treatment of tuberculosis. They have been distinguished by the names "old tuberculin" and "T. R." After describing the method of preparation of each of these tuberculins and citing the opinions of certain authorities on their use and the results obtained, E. A. De Schweinitz (*Jour. Am. Med. Assoc.*, April 14, 1900) arrives at the following conclusions: The "old tuberculin" apparently has a decided curative action on lupus. It is a valuable diagnostic agent, both in animals and man, and it should be used very much more extensively than heretofore, in diagnosing incipient cases. From numerous experiments on man and animals, here cited, it appears that in general "T. R." has given no better results than those which were secured by the use of the "old tuberculin," except, perhaps, that the secondary symptoms have not been so pronounced. A lack of uniformity in the character of the "T. R." may account for these differences. The serum treatment of tuberculosis must be regarded as still in the experimental stage, but deserves further study. The writer holds the opinion that the results obtained with the "old tuberculin" and "T. R.," and a careful study of the poisons of the tuberculosis germ, indicate that in incipient stages, the disease may perhaps be arrested and immunity secured by injecting the products of the bacilli freed from the necrotic principle, or by treating the patient with a serum which will neutralize the necrotic poison and a subsequent use of the products of the bacilli free from the necrotizing agent. A solution of these poisons free from the necrotic principle may be obtained from attenuated cultures.

Treatment of the Navel.—The chief principles to be observed in the treatment of the navel following birth are, according to F. Ahlfeld (*Centralbl. f. Gyn.*, No. 13, p. 337), shortening of the cord to the recognized minimum, touching up the stump and vicinity of the navel with 95 per cent. alcohol, then placing a layer of sterilized cotton which is to remain on for five or six days, only being removed in case of its becoming moist with urine. Especially may it be noted that after the birth of the child the cord is to be cut about 3 to 4 inches from the navel, after carefully tying it off with linen tape. Then, after the bath, the secondary shortening is to be performed. This consists in tying off the cord about $^2/_5$ inch from the navel and a little beyond this the cut is made. Now the aforementioned moistening with alcohol is to be done and the sterile cotton wrapped over it. The author never uses silk ligatures for tying off the cord, as it frequently happens that a hematoma of the cord follows a too tightly applied silk thread. The suggestion that a cautery-scissors be used to cut off the cord about one-half inch from the child's abdomen, Ahlfeld scores as being too dangerous in its application.

Antipneumococcus Serum.—Alexander Lambert (*Jour. Am. Med. Assoc.*, April 14, 1900) discusses the action of the various pneumococcus sera, as obtained from man, horse, dog, rabbit, and turkeys, and cites the results obtained by a number of investigators. He has used serum, prepared by himself from horses, in twelve cases of pneumonia, with nine recoveries and three deaths. The impressions received from these cases were: (1) The serum seemed to cause a slight reduction of temperature and an improvement in the pulse. (2) It did not cause a crisis in any case, nor did it seem to cut short the pneumonic processes. (3) It did cause the disappearance of the pneumococci from the general circulation in one case, although it did not prevent the development of an empyema, and the patient recovered. (4) The serum seemed to be of decided benefit in one patient with double lower pneumonia complicated with a furious delirium tremens, who had a relapse with a double upper and right middle-lobe pneumonia, but finally recovered. (5) The serum had absolutely no effects in two alcoholic patients who died. (6) The serum did not affect the leucocytosis, except in one case in which it was increased by 10,000, an hour after the injection, but this had fallen again the next day. While the writer believes the serum did marked good in two cases, in others it was useless. He has not continued to use the serum because it did not seem to shorten the duration of the disease, or to hold in check the pneumonic processes within the

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lungs, or to bring about the desired "crisis." In certain cases the pneumonia serum seems to prevent a general pneumococcus septicemia and in these it may prove valuable, but until a serum is obtained which will cut short the disease processes, Lambert thinks the usefulness of the antipneumococcus serum will be limited.

Pyogenic Origin of Chorea Rheumatica.—Those cases of chorea, which have been thoroughly studied from a bacteriological point of view, give evidence that the rheumatic cases are undoubtedly due, in the great majority of instances, to pyogenic micro-organisms. This is the result which S. Mircoli of Genoa (*Berlin. klin. Woch.*, April 2, 1900) has established through his investigations. In 17 cases of rheumatic chorea, there were found 14 of undoubted bacterial infection, with the staphylococcus as the prevailing germ and 3 with the diplococcus lanceolatus as the etiological factor. In two of the cases, the staphylococci were demonstrated in the blood of the patient. It has been said that the staphylococci and streptococci cannot exist in the body without giving rise to pus formation. It is, however, not to be forgotten that varying degrees of virulence are possessed by different germs and that this depends greatly on the soil in which the germs are imbedded. Furthermore, the difference between suppuration and phlogosis is one of degree only. Therefore, in those cases of germ origin there need not necessarily be any pus formed—the inflammatory processes stopping at the congestive stage. It is, besides all this, incorrect to suppose that acute rheumatism never goes on to suppuration. Extensive experiments made by the author on rabbits proved to his satisfaction that in the rheumatism brought on artificially in these animals, there were organic and functional changes simultaneously in the heart, kidneys, and blood. This may explain the varying symptomatology often encountered in the cases under discussion. Mircoli claims priority in the matter of the demonstration of the pyogenic origin of chorea rheumatica and its bacteriological connection with the ordinary rheumatic processes.

Cure of Cancer.—Cancroin has frequently been used in the non-surgical treatment of cancer, but, owing to the fact that this substance can be given only in small doses, the process of cure is at best only a slow one and the sufferers often lose patience, so that but little opportunity is afforded to test the true value of this method. A. Adamkiewicz (*Klin. therap. Woch.*, March 25, 1900), however, reports a well-advanced case of cancerous peritonitis in which the true worth of cancroin was settled beyond doubt. The main symptoms from which the patient was suffering were an enormous ascites and a rapidly advancing cachexia which demanded immediate aspiration. The examination of the fluid and the presence in the peritoneal cavity of numerous hard nodules made the diagnosis of cancer positive. Cancroin injections were then resorted to with the gratifying result that the dropsy did not recur and that the tumors steadily diminished in size. Two years later the patient was again seen by the author and appeared to be in perfect health.

Naftalan.—P. G. Unna (*Monatshft. f. prak. Dermatolog.*, April, 1900) has taken pains to ascertain the realm of usefulness of naftalan in skin diseases. He finds that in all deep-seated, chronic lesions it is distinctly without benefit, but that wherever over-irritation is present and a sedative would be in place, its use is indicated. Among this class certain forms of eczema and dermatitis, but especially universal eczema and psoriasis with exfoliation and a tendency toward malignancy, are included, the good results showing themselves in a lessening of the hyperemia and pruritus. Naftalan consists of a substance similar to vaseline with some pigment and soap. The latter gives a good consistency, easy miscibility with water, and ready absorption.

Death from Psychic Insult.—Under the name of delirium nervosum Dupuytren and, more recently, of operation-psychosis, the results of psychic insults have for some time been known to surgeons. F. Pagenstecher (*Phila. Med. Jour.*, April 14, 1900) reports a case, which he believes to be the first of its kind reported, in which death was the outcome of a psychic insult. A detailed history of the case is given, of which the following are the main points. The patient was a merchant, 51 years old, who had never been ill or injured in any way. He was not a drinking man. One day while at his desk sharpening a pencil he cut his thumb and his pen fell from his ear upon the wound staining it with ink. His nephew tried to wash off the ink and the man went to a physician. He was very much excited and told the doctor that he was very much worried for fear of blood-poisoning, as his ink was so poisonous. He complained of pain in his left arm and was anxious to notify his accident insurance company. The physician found, on the ball of the left thumb, four small vertical scratches, although all extended only to the true skin and could scarcely have bled. These scratches were each about 1 cm. long and one of them was stained with ink. The patient wanted the doctor to amputate his arm if he thought it necessary. A dressing was put on the thumb and the man went back to his factory. Later in the day he went home and complained of the pain in the arm. Then he went to see his family physician, who scraped away the ink with a knife, used bichloride on the thumb and put on a fresh dressing. The patient felt the poison working its way up to the axilla, and told this physician also to amputate the arm if it was necessary. After this dressing was put on the patient fell in a fainting fit with profuse perspiration, and because of this and because he thought he felt enlarged axillary glands this physician thought that there were symptoms of blood-poi-

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soning, but not enough to justify amputation. The patient passed a bad night and was very much excited when his physician called the next morning with an associate. He demanded amputation of his arm, was delirious, had auditory hallucinations, made arrangements for his own funeral, complained of headache, and tossed restlessly about the bed. At this time his pulse was 70, soft and regular, his temperature was not taken. After the doctors left, a nurse being with him, his face and mouth twitched and he crouched in a corner. When quieted he began to tell the nurse all his private affairs. Then the twitching of his face and his nervousness began anew. The patient's face was yellowish-white and the pulse was regular. At 4 P.M. the writer was called to operate and found the patient free from delirium, but most positive that he was going to die, and that his arm must be amputated. He was fearful of the pain which would be caused by the removal of the dressing on his thumb, but said nothing when it was taken off. There was no sign of irritation in the wound, nor any appearance of infection or glandular enlargement. The statements about the painful areas on the arm were very contradictory. The patient appeared weak when he sat up, and the twitching of the face and mouth was striking. He also demanded amputation from the writer. An hour later his pulse was 72, soft and full. Two hours later the patient was in a moribund condition, the heart's beat being scarcely audible. Death was sudden and wholly unexpected. The heart continued to beat for one and one-half minutes after respiration ceased. Blood-poisoning was ruled out by the results of the necropsy, but no real cause of death was found. The writer's opinion is that the case was one of traumatic neurosis which developed into an acute psychosis. He thinks that death possibly resulted from insufficiency of the heart, and doubts that it beat after respiration ceased. Two perfect examples of Dupuytren's delirium nervosum are cited in detail as illustrating less severe results of psychic insults. The writer also discussed the predisposing causes of delirium nervosum and operation-psychoses and the cause of death in this case and cites a number of authors who have written on these subjects. This patient had a large amount of accident insurance and the insurance company presented three theories against the claim, *i. e.:* (1) That the patient committed suicide by curare poisoning; (2) that it was a case of tetanus, and (3) that it was a case of acute hysterical psychosis. The writer agrees with the last theory except in regard to the term hysterical.

Delirium Tremens.—The treatment of this condition is well outlined by C. R. Stockton (*American Therapist,* March, 1900). In the acute stages the brain is congested as well as very much irritated by the alcohol itself. To withdraw the blood from the brain, purgatives are indicated, calomel in five-grain doses, followed by a saline. The skin should also be stimulated to activity. This can be accomplished by a hot pack and hot drinks. The kidneys should also be awakened by mild saline diuretics. To allay the nervous irritability bromides and chloral are recommended, the dose depending on the size, sex and strength of the patient. For large and strong male adults thirty grains of chloral and one to two drams of bromide may be given with safety. Half this dose is to be given to a woman. The extreme depression is to be met by stimulants, such as hot beef tea, capsicum, Hoffman's anodyne, nitroglycerin, strychnine and digitalis. If great rapidity in the evacuation of the bowels is a desideratum, he recommends hypodermic injections of aloin. Half-grain doses are capable of emptying the cecum in from one to two hours. Hydrobromate of hyoscine in one-hundredth of a grain is given hypodermically. This drug is to be used with much caution. The diet of the patient must be nutritious, easily digested and palatable. Small amounts of food taken at frequent intervals are indicated.

Diffuse Septic Peritonitis.—The researches of Robinson of Chicago have demonstrated that great variations exist with reference to the absorptive power of different portions of the peritoneum. The region of the diaphragm is known, from anatomical data, to possess the greatest physiological power of absorption, since here there are large lymph trunks present and there are numerous lymph stomata which stand ready to take up and transport to the lymph system at large any toxic products which may present themselves. Next in point of anatomy available for the same purposes is the intestinal region. Here the stomata and lymph trunks are numerous, but less so than those found in the diaphragmatic areas. The pelvic areas, on the contrary, present a condition which is in marked contrast to these former. Here the small lymph capillaries are numerous, but the stomata and lymph trunks are comparatively few. From such anatomical facts it may readily be inferred that toxic products, when found in the pelvic region, are less liable of absorption. This clinical experience amply corroborates. Furthermore, obstructive lymphangitis is capable of occluding the smaller vessels in the pelvic peritoneum and thus limit their carrying power, whereas the larger lymph trunks of the intestinal and sub-diaphragmatic areas are less liable to be occluded by such septic peri- and paralymphangitis. It has been observed that many cases of vomiting, accompanied by some diffuse septic process of the peritoneum, have been benefited by the sitting posture and this clinical observation in conjunction with the anatomical data has led G. R. Fowler of Brooklyn (*Med. Record,* April 14, 1900) to adapt these teachings and to describe a method of treatment of diffuse septic peritonitis by drainage and by elevated head and trunk postures to facilitate drainage into the pelvis. Fowler reports the histories of nine consecutive

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cases. All of these patients recovered. In all of these cases complete surgical drainage and cleansing of the peritoneal cavity was performed. The after-treatment consisted in elevating the head of the bed at least from twelve to fifteen inches. In order to prevent the sliding down of the patient, firm pillows are placed at the feet. With reference to the question of the best treatment of diffuse septic peritonitis, whether eventration or disembowelling for purposes of methodical cleaning; as well as the employment of peroxide of hydrogen solution, or the use of large quantities of decinormal saline solution for purposes of flushing out the peritoneal cavity are concerned, there may be in the author's opinion, some room for argument, but two points he commends with confidence, namely, the employment of the elevated head and trunk position, and drainage of the pelvic cavity at least by means of properly placed and protected glass drains.

Hypodermoclysis.—The chest, abdomen, thigh, axillary space, cellular tissues of the neck and back, beneath the breasts, in females, have all been advised as excellent regions for the subcutaneous injections of normal saline solution. R. C. Kemp (*Med. Record,* April 14, 1900) recommends highly the iliolumbar region, the space between the highest part of the ilium and the lower border of the ribs—in effect the loin, but rather the outer margin of the lumbar region. It is advantageous since it does not interfere with motion; it permits of the dorsal position, and the movements of abdominal and thoracic respiration are not hampered.

Diagnosis of Persistent Headache.—O. Landman (*Med. Record,* April 14, 1900) recommends the instillation of atropine in the eye for the diagnosis of certain forms of persistent headache. It is specially valuable for headaches associated with eye-strain. These pains are usually situated, when due to ocular defects, supraciliary, occipital, occipitofrontal, vertex and temporal. One type of headache he believes to be diagnostic of eye-strain. The pain is situated on the top of the head and has an area of about the size of a silver dollar; it is circumscribed and the scalp is tender. He uses a solution of one-fourth of a grain of atropine sulphate dissolved in two drams of water. Three drops of this are instilled three times a day. If the headache disappears under this mode of testing it is probably due to eye-strain and is best relieved by glasses. In old persons the test is to be applied with caution and should be discountenanced for any patients with increased ocular tension.

Flatulence and Colic in Infants.—These symptoms, which may occur unaccompanied by vomiting or diarrhea, are often due to feeding too rapidly and too much at a time; fermentation takes place in the small intestines, which become distended with gas; the infant grows restless and begins to cry. Flatulence may be relieved by one or two teaspoonfuls of equal parts of lime-water and cinnamon-water, a small dose of carbonate of ammonia and soda in peppermint-water, or a small piece of a "soda mint" dissolved in a little syrup. The amount of food should be diminished, at least temporarily, which can be satisfactorily accomplished by giving the infant sweetened barley-water or whey before nursing, and by not allowing it to nurse too often or too long at a time. In the case of bottle-fed babies the amount of food, especially of curd, should be reduced by diluting with barley- or lime-water, or, if preferred, the curd can be given predigested. Colic should be treated by large enemata (10—15 oz.) of warm water and by hot fomentations to the abdomen. The following prescriptions will also be found helpful:

1. ℞ Magnesiæ carb.....gr. iiss
   Rhei .....gr. ¼
   Syr. zingib .....mv
   Aq. menth. pip.....q. s. ad. ʒ i.
   M. Sig. Give every two hours to infant 3 or 4 months old.
2. ℞ Hydrarg. cam. cretæ.....gr. ½
   Pulv. ipec. et opii.....gr. ½
   Sacchari .....gr. ½.
   M. Ft. chart No. 1. Sig. For one dose.—*Ashby and Wright* (Northrup), "Diseases of Children."

Herpes Zoster of Mouth and Gums.—An ointment containing cocaine and morphine should be applied and a bit of cotton wool be placed between the cheek and the teeth to prevent friction. Another method consists in the application of compresses (which are renewed every two hours) wet with the following lotion:

℞ Plumbi acet.....ʒ ss
Pulv. aluminii.....ʒ ss
Aq. dest.....ʒ ii.
M. Sig. **External use.**

At the same time five drops of the tincture of belladonna are administered every two hours until the pharynx becomes slightly dry, and the following mixture is prescribed:

℞ Ext. gelsemii.....gr. xx
Sodii sulpho carb.....gr. xx
Aq. dest.....ʒ i.
M. Sig. One teaspoonful every two hours.

Under the above treatment the pain is said to disappear in a few hours and the course of the disease to be shortened.—*Gorgas,* "Dental Medicine."

Diuretics in Cardiac Dropsy.—

1. ℞ Potassi acet.....gr. x
   Succi scoparii.....ʒ ss
   Tinct. digitalis .....mv
   Spts. chloroformi .....mv
   Inf. senegæ (Br.).....ʒ ss.
   M. Sig. Dose to be administered three times a day to a child of from 8 to 12 years of age.
2. ℞ Potassi iodidi.....gr. ii
   Tinct. scillæ .....mv
   Tinct. strophanth .....mv
   Spts. chloroformi .....mv
   Aquæ q. s. ad.....ʒ ss.
   M. Sig. As above.—***Ashby and Wright.***

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SATURDAY, APRIL 21, 1900.

LICENSING MIDWIVES IN NEW YORK.

THE Plunkitt Bill entitled An Act: "Regulating and restraining the practice of midwifery in the City of New York by others than legally authorized physicians," has passed the Senate and Assembly and is now awaiting the signature of the Mayor and Governor in order to become a law. There seems to be an ideal as well as a practical side to the midwifery question. The ideal is presented in the argument that no one who possesses less knowledge than is demanded of the practitioner of medicine in this State should be permitted to practice midwifery. It is considered against public policy to lower the standard in order to provide for a class to practice midwifery even in normal labor only, as is provided in the Act known as the "Plunkitt Midwifery Bill." Imperfectly educated women must not be licensed by the State to practice midwifery and become a menace to public health, as it requires no less knowledge than that which is possessed by a licensed physician to protect the mother and child from injuries and diseases to which they are both specially liable at this time. On the other hand the argument in favor of the practical solution of the question presents the fact that midwives have always existed, and the belief that they will always continue to exist. That the work midwives do in caring for the family as well as for the mother and child makes their services invaluable to the poorer classes of the community. They deliver the mother, wash the child, cook the family meal, care for the other children, and if necessary do general housework while the mother is lying sick in bed. Midwives are often selected to do the kind of work that is beneath the dignity of a physician to do, but is essential and helpful to the family of the poor sick mother.

If midwives should be examined by a regularly constituted examining board under the control of the Regents of the University of the State of New York and a license issued to them by the State, the poor of the community would not be the prey of the criminally ignorant midwives who now practice in all the cities of this State. As there is little hope that the supporters of the ideal side will be able to abolish this class of midwives let us accept the practical solution of the question which will secure to the poor of the community better attendants by weeding out the criminally ignorant midwives who occasion so much misery, disease and death.

The objection to the present bill is that it establishes a special board of examiners appointed by the New York City Board of Health from the corps of Sanitary Inspectors. This is a fatal error and the bill should be opposed by the profession before the Mayor and if not successful there the defect in the bill should be convincingly presented to the Governor.

SPINAL CORD HEMORRHAGE.

MODERN methods of locomotion and later day necessities of haste and bustle have brought many attendant ills, not the least important of which are injuries to the spinal cord. One special type of such traumatic hemorrhages into the spinal cord has received a large share of attention and a recent and valuable addition to our knowledge is contributed by Pearce Bailey in a recent number of the *Medical Record*, April 7, 1900.

This is a condition which a few years ago was comparatively unknown and which, no doubt, often passes unrecognized at the present time. Bailey divides the conditions which may be caused by an injury to the spinal cord into three classes: First, pressure from displaced or broken-down protecting structures; second, pressure from blood poured out within the spinal canal

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(hematorrhachis), and, third, primary hematomyelia.

The first class comprises the common fractures and dislocations of the spine. The symptoms are usually grave and extended and the prognosis bad. In a well-marked case there is paralysis of motion below the site of the lesion, loss of sensation and sphincter action. But the pressure on the outside of the cord may be slight and associated with it may be found hemorrhages into the gray matter, giving the symptoms also of a primary hemorrhage. It is important to bear in mind that pressure from outside affects the long afferent and efferent tracts and consequently, no matter how slight the symptoms are, they may be found everywhere below the lesion. On the other hand, primary hematomyelia may cause symptoms in the upper extremity while the lower is unaffected. The second class of cases, in which blood is poured out into the spinal canal between the cord and vertebræ, is usually associated with other lesions and is rarely, if ever, of clinical importance.

The third variety, namely, primary hematomyelia, is relatively frequent and the diagnosis important on account of the favorable prognosis which may often be given. The situation of the hemorrhage is usually in the gray matter, on account of its high vascularity and the lack of supporting tissue. The ventral and dorsal horns are favorite sites. The white matter also may be invaded through two or more segments and even causing fair-sized cavities. The blood usually causes an actual destruction of the nervous tissue, absorption follows with the formation of new neuroglia cells. Localized hemorrhages from injury are found most frequently in the lower cervical and upper dorsal regions on account of the spinal movements. Only a few cases of disseminated extravasations throughout the whole spinal axis have been described.

When larger focal hemorrhages occur, paralysis of the upper and lower extremities usually immediately follows (the most common site of the lesion being the lower cervical region). The paralysis of the arms is due to an actual destruction of the nerve-cells and is permanent; the paralysis of the legs is due to pressure on the anterior and crossed pyramidal tracts, causing a spastic condition which gradually improves, although a flaccid state is commonly present immediately after the injury. The muscles of the upper extremities most frequently affected are the small ones of the thumb and the interossei, and thus the malady somewhat resembles progressive muscular atrophy, especially when atrophy, fibrillation and degenerative electrical reactions occur. The sensory symptoms, however, resemble those of syringomyelia, since the sensation of touch is preserved while the sensations of pain and temperature are lost; the latter being conveyed brainward along paths near the central canal.

Many of these patients almost entirely recover. When small focal hemorrhages occur the symptomatology cannot be closely defined, for the various situations of the lesions give widely different symptoms. There is not usually any loss of control of the rectum or bladder, such as is often present, at least temporarily, in large focal hemorrhages. Sensory symptoms may be absent. Anesthesia is not widespread and the crossed paralyses of the Brown-Séquard type are common. Cases of so-called diplegia brachialis traumatica, in which the symptoms consist of a flaccid paralysis of the upper extremities resulting from an injury to the neck, together with lack of anesthesia, absence of sphincter control, and no paralysis of legs, are probably due to hematomyelia.

As far as treatment of these conditions is concerned, it is important to understand that the progress is favorable and that the nutrition of the patient and especially the affected muscles should be maintained. Rest in bed, faradism or galvanism, prevention of bed sores, and the use of potassium iodide, are the usual means of treatment.

PAY AND SERVICE OF ASYLUM ATTENDANTS.

WITH the lessened number of hours of work in many fields, comes the renewed demand for a similar reduction in the hours of duty of asylum and State hospital attendants and nurses. The matter was thoroughly discussed before the London County Council (*British Medical Journal*, Feb. 24, 1900) by the Asylum Committee at their February meeting, and a similar movement has taken shape in form of a bill recently introduced in the New York State Legislature, for reducing the hours of duty in State hospital service to eight hours, thus making three shifts necessary for the twenty-four hours. Action is still pending upon this measure in the legislative committee.

In the great majority of asylums and State hospitals, the day attendants and nurses are on duty from six A. M to eight P. M., or from the rising to

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the retiring hour of the inmates, while the night attendant or nurse is on duty for the remaining ten hours of the twenty-four. The committee of the London asylums reported against the advisability of attempting three shifts, eight hours each, because of the great expense entailed, although they deplored the necessity of a continuous duty of fourteen hours for such employees. A similar position was taken by Dr. Wise, President of the State Commission of Lunacy, who, in a recent committee hearing on the New York State bill, spoke against it on the ground of the unavoidable additional expense. The salary for this class of the service in New York State is already $1,000,000 yearly. The change would therefore necessitate $300,000 more for the care and treatment of the insane; no inconsiderable sum when we consider that the yearly appropriation for the insane is about $3,500,000 already. Taking into account that only last year the New York State Legislature cut the appropriation for salaries and wages for the State hospitals seven per cent., it does not seem that the matter will be settled for some time to come, even were it a matter of finance only.

Certainly, the confinement and responsibility of those engaged in caring for the insane in this country are too little recognized and compensated for in many States. The work in caring for the mentally afflicted is more arduous than those in charge of the physically ill in our large general hospitals, where the hours of the day- and night-work is usually equally divided. But one must bear in mind that those patients in a general hospital are mostly in bed, thus making a twelve-hour shift more practicable there than in an asylum. The compensation which the attendants in the New York State institutions receive is apparently the prevailing rate of wages when the living expenses of such employees are taken into account, although it may be said that the service pay of this State is far in advance of many others. In this connection another movement, none the less important and praiseworthy, is being agitated in New York State; that of pensioning attendants and physicians who may suffer lasting or permanent injury in the discharge of their duty while caring for the State's defective classes.

While it is justly expected that those devoting themselves to the care of the insane, both attendants and physicians, should be largely actuated by philanthropic motives, we fail to see why they should be deprived of a just compensation. Assuredly, here as well as elsewhere, it has been found in the past that the laborer is worthy of his hire.

ECHOES AND NEWS.

NEW YORK.

The Drug Clerk's Bill.—The bill regulating the working hours of pharmacists and drug-clerks in New York City has become a law.

In Dr. Fitzsimmon's Memory.—To perpetuate the memory of their son, the parents of Dr. Fitzsimmons, who died recently, have presented a pipe-organ to St. Mary's Hospital. Dr. Fitzsimmons had been connected with this institution for nearly two years.

The Governor's Signature.—Governor Roosevelt has signed the bill appropriating $1,000,000 for buildings, repairs and improvements at the State Hospitals for the Insane.

The Hospital for Crippled Children.—The State Hospital for Crippled Children, to be erected near New York City and for which $15,000 have been appropriated by the Legislature, is now being organized. Governor Roosevelt has appointed Dr. Newton M. Shaffer to be Surgeon-in-Chief for a term of six years. Among the managers are Bishop Potter, J. Hampden Robb, J. Adriance Bush, and George Blagden, Jr.

Mothers' and Babies' Hospital.—Through the generosity of a New York lady, this institution recently received a handsome donation for the purpose of building an amphitheater for the accommodation of students in attendance upon the clinics which are held there. Clinics in midwifery are given to students of four medical schools. This donation is strictly in the interest of medical education.

Contagious Diseases.—For the week ending April 14th, 1900: Measles, 680 cases and 22 deaths; diphtheria, 225 cases and 50 deaths; laryngeal diphtheria (croup), 23 cases and 11 deaths; scarlet fever, 158 cases and 22 deaths; smallpox, 1 case and 1 death; chicken-pox, 16 cases; tuberculosis, 237 cases and 179 deaths; typhoid fever, 15 cases and 7 deaths; cerebrospinal meningitis, 9 deaths. Totals, 1355 cases and 301 deaths.

The State Tuberculosis Hospital.—The trustees of the hospital to be established in the Adirondacks for the treatment of incipient phthisis have been appointed. They are Howard Townsend, of Manhattan; Dr. John H. Pryor, of Buffalo; Dr. Willis G. McDonald, of Albany; Walter Jennings, of Manhattan, and Frank E. Kendall, of Saranac Lake. The site is to be approved by the State Board of Health and the Forest Preserve Board. The latter will set aside 1000 acres of land for the use of the hospital, and the trustees are to purchase an equal amount.

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Revision of the Pharmacopœia.—The following

resolutions have been adopted by the New York State Medical Society:

Resolved, that it is the sense of the Medical Society of the State of New York that the interests of medical science require the establishment of a Bureau of Materia Medica in order to institute disinterested investigation into the character and value of new drugs.

Resolved, that this Society recommends to the Decennial Convention of 1900 for the revision of the U. S. Pharmacopœia, the creation of such a Bureau by and under its authority, with the provision that it shall report annually upon the matters coming properly within the scope of its work. Adopted January 30, 1900. F. C. Curtis, Sec'y.

Gerry Society Remains Autocratic.—The Court of Appeals at Albany denied on April 17th the application of the State Board of Charities for re-argument of its action to compel Commodore Elbridge T. Gerry's Society for the Prevention of Cruelty to Children to submit to the Board's inspection and visitation. The Court had already decided, by a vote of 4 to 3, that Mr. Gerry's society does not come under the jurisdiction or inspection of the State Board, and the last Legislature refused to pass a bill making the Society subject to such visitation and inspection.

State Board of Charities' Election.—The State Board of Charities, at its annual meeting on April 12th, unanimously elected William Rhinelander Stewart of New York President for the eighth consecutive term, and Enoch Vine Stoddard of Rochester Vice-President for the sixth consecutive term. The other officers were continued in office, subject to the pleasure of the Board.

Operation on Dr. West.—Dr. George E. West, who was formerly Secretary of the Health Department in Brooklyn, had his left leg amputated on April 12th at the Brooklyn Hospital. The disease was tuberculosis. A brother of Dr. West had a leg amputated a few years ago for the same reason. The latter died.

Hospital Sunday Fund.—The collections of the Hospital Saturday and Sunday Association, as reported by the General Treasurer, Charles Lanier, amount to more than $74,000, nearly $4,000 more than last year. The Woman's Auxiliary collected over $9,000. The following is the apportionment of the committee made on a basis of free work performed by the various institutions benefiting:

Montefiore Home for Chronic Invalids	$5,800.00
St. Luke's Hospital	5,161.67
Roosevelt Hospital	3,530.10
Mount Sinai Hospital	4,915.59
German Hospital	3,461.64
Ruptured and Crippled Hospital	3,030.32
Nursery and Child's Hospital	2,791.45
St. Mary's Free Hospital for Children	2,057.96
Isabella Heimath	1,892.48
Home for Incurables	1,807.47
Mother's Home of the Sisters of Misericordia	1,769.04
French Hospital	1,730.52
Colored Home and Hospital	1,692.37
Sloane Maternity Hospital	1,495.41
Lebanon Hospital	1,348.81
Orthopaedic Hospital	1,313.73
Infirmary for Women and Children	1,095.39
House of the Holy Comforter	1,047.73
J. Hood Wright Memorial Hospital	964.92
Woman's Hospital	834.83
Flower Hospital	801.13
Skin and Cancer Hospital	788.59
Mothers' and Babies' Hospital	761.91
Post Graduate Hospital	757.61
St. Mark's Hospital	734.50
Beth Israel Hospital	696.01
Ophthalmic Hospital	692.46
Babies' Hospital	667.01
Eye and Ear Infirmary	666.99
New York Polyclinic Hospital	593.16
Manhattan Eye and Ear Hospital	590.08
Old Marion Street Maternity Hospital	584.36
Hahnemann Hospital	576.66
General Memorial Hospital	540.16
Ophthalmic and Aural Institute	308.95
Convalescent Home	250.00
Medical College and Hospital for Women	250.00
Total	$58,000.00

The remaining $16,000 will be turned over to institutions especially designated by the donors.

PHILADELPHIA.

Hospital Addition.—St. Mary's Hospital, Kensington, is too small for the increasing demands made upon its facilities and an addition is to be made. The new wing will be 70 by 100 feet and four stories high.

Health Report.—Deaths in the city for the week ending April 14th were 691, an increase of 12 over those of the previous week. Contagious diseases: Diphtheria, 81 cases, 15 deaths; scarlet fever, 60 cases, 8 deaths; typhoid fever, 85 cases, 15 deaths. The deaths from influenza were 46.

Phœnixville Hospital.—The new hospital at Phœnixville was dedicated April 14th, the cornerstone having been laid in 1898. The structure is four stories in height and cost $43,000. The local council of Junior American Mechanics presented the hospital with a new ambulance.

Unusual Demand for Nurses.—The demand for trained nurses is unusually large at present and at the various hospitals the supply is barely equal to the demand. This is also the case at the Directory of Nurses at the College of Physicians. Cases of Sickness are of a general nature, but influenza and pneumonia predominate.

Women's Medical College.—The semi-centennial jubilee of this college will be celebrated in connection with the commencement exercises in May. The college has made great advancement during its fifty years of existence, a new annex and a gymnasium being the most recent additions. The niece of a royal prince of India is now a student at the college. Among the graduates are a large number of medical missionaries.

County Medical Society.—At the meeting of April 11th, Dr. David Riesman exhibited a case of elephantiasis of the leg. The patient is a male, a worker in an iron mill. The swelling began four years ago, sharp pain being felt at first, and rapidly increased, nearly the present size of the leg being attained in six weeks. The chief com-

plaint now is headache and irregular pains in the abdomen, but these are attributed to the patient's occupation. No filaria have been found, although four examinations have been made and they are not believed to be the cause. The etiology is not sure, the process seeming to be one that lies between inflammation and a tumor.

Dr. Edward Martin spoke on "The Surgical Treatment of Empyemia." Prophylaxis is of great importance and consists in aspirating or draining all cases of inflammatory effusions. The opening should be made in the eighth interspace just anterior to the line of the angle of the scapula, the skin being opened with a knife before the needle or trocar is inserted. For empyema the opening is in the same interspace at the posterior axillary fold. Summary: Empyema is best prevented by promptly evacuating effusions. In a recent empyema, use the continuous siphon drainage, making an opening large enough to admit the little finger. In more obstinate cases, one inch of a rib should be resected. In long-standing cases remove the bony and muscular walls to allow closure of the cavity.

Pathological Society.—At the meeting of April 12th, Dr. S. Solis Cohen exhibited an enormous liver containing a secondary sarcomatous growth from a primary mediastinal tumor. The primary growth was in the mediastinal lymphatics or the bronchial glands. The liver weighed nearly 15 pounds. The right and left lobes were both greatly enlarged, but between them was a normal area, this leading to the diagnosis of enlarged spleen also. The latter organ was found to be normal. The clinical duration of the case was only three months. Death was caused by rupture of the liver.

Dr. H. F. Harris read a paper and gave a microscopical demonstration of "The Pathological Alterations in Bubonic Plague." The specimens upon which the study has been made were brought from Hong Kong by Dr. W. F. Arnold, U. S. N. The most important alterations are found in the lymph-nodes. In one-half of the cases the glands of the groin are first affected, 50 per cent. of the remainder occurring in the axilla. The nodes are greatly swollen, the tissues surrounding them being also swollen and often exhibiting hemorrhagic foci. In severe forms of the disease the nodes are soft, the cortical and medullary portions can rarely be distinguished, and the contents are semi-fluid or mucilaginous. The surrounding vessels are enlarged and contain pest bacilli. The contents of the node consist of granular material, cells, and cellular débris. In some instances the pest bacilli constitute more than one-half the contents of the node. The cells present consist of lymphoid and hyalin cells, many of the latter showing phagocytic forms. Some of these contain 30 or 40 pest bacilli, but the bacilli have evidently been victorious as they do not stain differently from those which are free in the node. Mast cells are also present and around some of them is a zone in which no bacilli are found, which suggests the question of their producing an antitoxin. These mast cells are considered diagnostic as they have not been found in the lymph-nodes in any other lesion. True suppuration does not occur in the glands without a secondary infection. The walls of the surrounding blood-vessels become swollen and degenerated, this accounting for the areas of hemorrhage which occur.

CHICAGO.

Appropriation by the City Council.—For the purpose of constructing an emergency hospital in the down-town district, the City Council has taken favorable action on the proposed appropriation of $2,000, as urged by the Women's Medical Club.

Drainage Canal Improves the River.—According to a report made by Professor Long, of the Department of Chemistry of the Northwestern University Medical School, the water of the Illinois River now contains fewer germs than it did before the canal was opened. Professor Long's analysis shows the proportion of impurity in the river-water this year as compared with last year. The analysis will be used as evidence against possible complaints of residents. Professor Long concludes that the increased flow of the canal will decrease further the proportion of germs.

Medicine as a Profession.—Dr. John M. Dodson, in an address recently delivered before the Sunset Club of this city, said that in this country there is about one doctor to every 600 of population, while in foreign countries the ratio is about twice as high. The average salary of a physician in a large city is approximately $2,000 a year, while in the country districts the average is about $1,500 a year. To a young man studying the proposition of entering a profession, if he has merely the question of making money in mind, there are other walks of life which offer larger inducements. The highest possible return that he knows of in the profession is about $80,000. There are two doctors in Chicago who make more than $50,000 annually, 10 who make more than $25,000, and 100 who make from $10,000 to $20,000 each year. The opportunities for original research and investigation are great. There has been a great advance in medical education, but there is much for the profession to learn, and one of the most important things is preventive medicine. He believes the time is near at hand when the physician will be paid by his client not alone for the curing of disease, but for its prevention.

Diseases of the Nose and Throat in Relation to Life Expectancy.—Dr. William E. Casselberry, in a paper read before a joint meeting of the Chicago Medical Society and of the Chicago Medical Insurance Examiners' Association, stated that diseases of the throat and nose have not as yet been accorded a prominent position as to life expectancy. The term catarrh is responsible for

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the chaotic state in which nasal diseases still remain in the minds of most observers. Embodied in a question the word has its uses in eliciting information from the applicant, but the physician should ever remember that all conditions of nasal discomfort, discharge and fetor, are colloquially designated by this term catarrh, and that it is thus caused to embrace a multitude of disorders, like and unlike, trifling and grave, and from the merest functional disturbance of secretion to the widest destruction of tissue incidental to constitutional disease or malignancy. From a medical standpoint the term should be restricted to the three ordinary forms of inflammation respectively designated as simple rhinitis, hypertrophic rhinitis, and atrophic rhinitis. These, when uncomplicated, have little or no influence upon life expectancy, unless the case be one of extraordinary severity, or occurring in one of otherwise debilitated constitution. But these unimportant catarrhal affections are liable to be confounded with more serious nasal diseases which are prone to shorten the duration of life, and which the examiner, therefore, should seek to discover. Prominent among these he mentioned chronic suppuration of the antrum of Highmore, or of the frontal and ethmoid sinuses. The significance of nasal polypus with reference to life insurance rates varies with the individual case. If single or small, and with little disposition to recurrence after removal, it may add but a trifling risk, but when multiple or large, and persistently recurrent, a conservative custom would be to exact a thorough removal of the polypi as a condition preliminary to acceptance. Polypi are a frequent accompaniment and, probably, at different times, both a cause and an effect of sinus empyema, so much so that to the rhinologists their presence is instantly suggestive of a possible chronic suppuration in one or more of the accessory sinuses of the nose. In like manner asthma, while not solely caused by nasal polypi and polypoid hypertrophy in the ethmoid region, is so commonly associated therewith and aggravated thereby that it seems incumbent to take the asthmatic tendency into consideration as a possible complication which does exert a baneful influence upon life expectancy, and which, if not present at the moment in conjunction with polypus, is liable to arise in the future. In this connection he mentioned also hay-fever and hay-asthma. The former alone, he believes, is not considered a cause for rejection, but the latter, especially if severe, should be viewed with suspicion on account of its tendency to pass into common asthma, and thence ultimately into chronic bronchitis. A symptom of importance in nasal disease of which the examiner should take cognizance is fetor. When pronounced, it is common both to the ozenal type of atrophic rhinitis and to the gummatous ulcerative or necrosing stage of nasal syphilis. To epitomize briefly the symptomatology of chronic nasal affections, one should observe the character and location of a nasal discharge with reference to sinus empyema; the degree and persistency of nasal obstruction with regard to neoplasms; and the presence of fetor and crust-formation with reference to syphilis, these being the diseases which materially influence life expectancy. Diseases of the larynx will bear a closer analysis as regards life expectancy, for this organ is a favorite site for obstructive conditions and for progressively fatal affections, such as tuberculosis and cancer.

Early Diagnosis of Pulmonary Tuberculosis.—Dr. Geo. W. Webster read this paper. He first described the clinical manifestations, including an examination of the sputum, and then the other means or methods which are available and valuable, such as the use of iodide of potassium, tuberculin, the X-ray, and the inoculation of animals. Reference was made at length to the family history, personal history, age, occupation, habits, previous illnesses, symptoms, general examination, mensuration, circulatory system, percussion, and auscultation. The earliest respiratory sign of beginning tuberculosis is enfeebled breath sounds, of a slightly roughened, harsh respiratory murmur, audible during expiration; or the expiratory sound slightly prolonged. This slight increase in the relative length of the expiratory murmur may be the only sign at first and may not have the slightest suspicion of a tubular quality, but is slightly increased in intensity. Auscultation of the voice is of great value in confirming the findings of percussion and auscultation. The X-ray has its advocates as a valuable means of early diagnosis, but the cost of the necessary apparatus, together with the high degree of technical skill required, will served to limit its value, which has not yet been satisfactorily determined. The iodide of potash test is one of very considerable value. In those cases in which there are very faint physical signs and an absence of even the amount of sputum for a microscopical examination, or where the physician desires to determine the location and extent of the tuberculous process, this method offers many advantages. The tuberculin test has warm advocates as well as strong opponents. The latter allege unreliability, reaction in other diseases, notably syphilis; no reaction in cases of undoubted tuberculosis. Its advocates assert that it is safe, delicate, reliable, and that in very many cases (and this applies perhaps with more force to tuberculous lesions, other than pulmonary) it furnishes an absolutely reliable and safe means of making an absolute diagnosis.

GENERAL.

Marine Hospital Surgeons.—President McKinley has recently nominated for promotion to full surgeonship in the Marine Hospital Service, Drs. Rell M. Woodward of Indiana; George T. Vaughn of Virginia; and Thomas B. Perry of Georgia.

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New Jersey's Insane Asylum.—The appropriation of $54,000, recently made by the State Legislature, will enable the new wing for the reception of female patients, which is being erected at the State Hospital at Morris Plains, to be promptly completed.

Typhoid at Cape Nome.—It is reported from Cape Nome that typhoid fever has raged there during the winter. There have been 300 cases and 30 deaths. The colony of female nurses that has recently been organized for service in the mining camp is booked to sail very shortly for their destination. They will doubtless find plenty to do.

The Grip in Connecticut.—Connecticut is undergoing the most serious epidemic of grip that has visited the State in ten years. Dr. Lindsley, Secretary of the State Board of Health, stated on April 15th that the mortality during last March (1690) was unprecedented in any one month since January, 1892, when the total deaths numbered 1953, the highest that ever occurred in the State.

The Margaret Williamson Hospital.—This is the name of the hospital for the native women and children of China which has recently been completed at Shanghai under the auspices of the Woman's Missionary Society, whose headquarters is in the Bible House, New York City. This building replaces the one that was burned about a year ago. In the dispensary and in its wards, it cares for about 35,000 patients annually.

A New Spring at Bad Nauheim.—On March 7th a new effervescent thermal brine spring was struck in Bad Nauheim at a depth of about 700 feet. The water contains between three and four per cent. of chloride of sodium and has a temperature of 89° F.; it is also heavily charged with carbonic-acid gas. The fears formerly entertained that there might be a deficiency of such water at this resort have been banished by this new source of supply.

A Guide Book to Switzerland.—The Public Utility Association, Interlaken, Switzerland, has just published a little book of information for Americans who anticipate a trip abroad this summer. It is illustrated and gives information regarding transportation, hotel accommodations, etc. This will be mailed free to any one who will made application for it at the above address. Members of the profession who are planning to visit Switzerland may find this little book of great service.

Jamaica Ginger Drinking.—Four lumbermen in a Maine logging camp have recently died from drinking the contents of bottles labelled Jamaica ginger. The stomachs of two of these men have been examined at Bowdoin College, and as a result of the analysis made, the coroner's jury decided that death was caused in each instance by drinking a mixture purporting to be Jamaica ginger and so labelled. This "ginger" was found to be composed of alcohol and capsicum, flavored with a slight trace of ginger.

Professor Atwater on Alcohol.—Professor Atwater, of Wesleyan University, has recently reaffirmed his statement, based upon experiments scientifically conducted by means of the calorimeter, that alcohol has a limited nutritive value, mainly in the development of energy, being equivalent in this respect to fuel. He believes that total abstinence in respect to alcohol is the best course for all people in health, espcially young people.

Eddyism.—It is reported from Amsterdam that a wealthy widow of that city died recently of pneumonia under the care of a Christian science healer. It is alleged that the Christian scientists refused admittance to the patient to all but members of their faith until the case became hopeless, when physicians were called. An endeavor is being made to have the healer indicted by the grand jury. This case calls attention to the reckless and greedy quacks with this pretentious name who exercise neither knowledge nor discretion in applying their treatment.

The Plague.—The plague continues to rage with increased virulence in India. The famine-stricken people are also falling ready victims to various other diseases. There are now employed on the relief works of the famine districts of India over 4,800,000 persons. A few cases of plague were reported at Aden, on the Red Sea, March 17th. On the Island of Mauritius, for the week ending March 29th six fresh cases of plague and five deaths were reported. From Sydney it was officially reported April 15th that 111 cases and 38 deaths from bubonic plague had occurred up to that date.

Wounded Horses in Battle.—With a view to avoiding the suffering of wounded horses or mules on the field of battle, General Miles, during the recent Spanish-American war, issued an order that a veterinary surgeon, or some other person detailed by the commanding officer, should accompany troops in an engagement, whose duty it was to put an end to the agony of horses or mules that in his judgment were suffering to a degree requiring such action on his part. The British army in Africa has adopted the same practice.

Obituary.—Sir William Overend Priestly, Member of Parliament for the University of Edinburgh and St. Andrews since 1896 and formerly President of the Obstetrical Society of London, died recently in that city.—Dr. George H. Conklin, the oldest physician of Suffolk County, N. Y., died recently at Babylon at the age of eighty-nine.—Dr. Frank D. Kimball, twenty-four years of age, one of the house surgeons at the City Hospital on Blackwell's Island, died April 12th. The cause of his death was suppurative meningitis, complicating an attack of grip. Dr. Kimball was a graduate of Dartmouth Col-

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lege and of the New York University Medical College.—Dr. J. S. Cocke, the blind physician of Boston, was recently found dead upon his bed with a bullet wound in the mouth. It has not yet been decided whether his death was due to foul play or to suicidal intent.—Dr. Charles C. Eastman, a leading insanity expert of New York State and assistant manager of the Binghamton State Hospital, died on April 11th. Dr. Eastman had been connected with the hospital since its opening in 1881.—Dr. Isaac C. Haring, one of the oldest physicians of Rockland County, N. Y., died in the Nyack Hospital on April 16th. He was a graduate of the Albany Medical College, and practised medicine in Rockland County for fifty years.—Dr. James Whitford, the oldest physician in Onondaga County, N. Y., died on April 16th. He practised medicine in Madison County for thirty-four years and for twenty years at Onondaga Valley, residing in the historic house which Joshua Forman, the pioneer of the Erie Canal, built more than a century ago.

Medical War News.—Investigation into the cause of the outbreak of typhoid fever among the Boer prisoners on board the prison ships at Simonstown, has revealed the fact that the drinking-water supply of the prison ships is taken from the same source as that from which the war-ships in the harbor are supplied. As the fever is confined to the Boer prisoners, it is manifest that it is due to infection acquired previous to imprisonment. The victims of the war are just beginning to appear at the clinics in London, and afford interesting material for illustrating lectures upon gunshot wounds. Our non-combatant profession has again sealed with its blood its devotion to the relief of suffering humanity in the person of Dr. C. Irvine, who attended the wounded for two hours under a terrible fire at Koorn Spruit until he was finally struck and instantly killed. By a strange coincidence he was struck by three bullets simultaneously. This may have been simply accidental, but it looks sadly like sudden concentration of fire on the part of a squad. This would seem to confirm Botha's statement that the surgeon who is doing his best to enable wounded men to return to duty in the shortest time is really a combatant, and not entitled to the immunities of the Red Cross.

American Gynecological Society.—The twenty-fifth annual meeting, semi-jubilee, will be held at Washington, D. C., May 1, 2, 3, 1900.—The following is the program:

1. The Technic of Operations for Intraligamentous Tumors, H. N. Wathen, Louisville, Ky.
2. Fecal Fistula, I. S. Stone, Washington.
3. A Study of the Remote Results of Conservative Operations on the Ovaries and Tubes, W. L. Burrage, Boston.
4. Internal Secretion of the Ovary, A. W. Johnstone, Cincinnati.
5. The Technic, Indications, and Ultimate Results of Suturing the Round Ligaments to the Vaginal Wall for Retroversions and Flexions of the Uterus, Hiram N. Vineberg, New York.
6. A Comparison of Vaginal and Abdominal Operations, G. Richelot, Paris, France.
7. Demonstration of Casts Illustrating the Anatomy of Pregnancy and Labor, also Models Used in Gynecologic Teaching, J. Clarence Webster, Chicago.
8. The Best Method of Removing Uterine Fibroids, Howard A. Kelly, Baltimore.
9. Combined Nephrectomy and Ureterectomy, E. E. Montgomery, Philadelphia.
10. Anastomosis of the Ureters with the Intestines; An Historical and Experimental Research, Reuben Peterson, Chicago.
11. A Critical Survey of Ureteral Implantation, J. W. Bovée, Washington.
12. Migrated Ovarian Tumors, George M. Edebohls, New York.
13. An Appreciation of Kelly's method of Removing Fibroids of the Uterus, A. Lapthorn Smith, Montreal.
14. Bronchial Disease not Invariably a Contraindication for Ether Anesthesia in Abdominal Surgery, Thaddeus A. Reamy, Cincinnati.
15. The Treatment of Full-Term Ectopic Gestation; Should not the Child Receive More Consideration? Edwin B. Cragin, New York.
16. The President's Address, George J. Engelmann, Boston.
17. The Relationship between Dysmenorrhea and Appendicitis, Archibald McLaren, St. Paul, Minn.
18. Clinical Data Relating to *(a)* Urinary Toxemia; *(b)* Operative Treatment of Uterine Displacements; *(c)* Ectopic Gestation; *(d)* Certain Complications of Uterine Fibroids, Egbert H. Grandin, New York.
19. *(a)* Demonstrating the Utility of a Certain Chart for the Determination of Pelvic Asymmetry from a Very Simple Method of External Pelvimetry. *(b)* Advantages of Employing a Certain Background in the Photography of Pathologic Specimens, Philander A. Harris, Paterson, N. J.
20. Contribution to the Management of Face Presentations, with Report of Two Cases, Malcolm McLean, New York.
21. Pernicious Nausea of Pregnancy, with a Report of Cases and Autopsy, E. P. Davis, Philadelphia.
22. Intra-abdominal Amputation of the Uterus, a Modification of Hysterectomy, F. H. Davenport, Boston.
23. A New Method of Operating per Vaginam for Carcinoma Uteri, also Applicable to Rectal Operations, William R. Pryor, New York.
24. Personal Reminiscences Associated with the Progress of Gynecology, T. Addis Emmet, New York.
25. The Status of Gynecology in 1876 and in 1900, Alexander J. C. Skene, Brooklyn, N. Y.
26. Reminiscences of the Foundation and Early Years of the Society, James R. Chadwick, Boston.

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27. The Personal Factor in the Work of the American Gynecological Society, E. Van de Warker, Syracuse, N. Y.

28. Some Kaleidoscopic Pictures in Rhyme, Thaddeus A. Reamy, Cincinnati.

CORRESPONDENCE.

OUR LONDON LETTER.

[From Our Special Correspondent.]

LONDON, April 7, 1900.

THE ROYAL FAMILY AND THE WOUNDED—THE WELSH HOSPITAL STAFF—SPLENDID RECORD OF HOSPITAL SHIPS—BOERS RESORT TO "EXPANSILE BULLETS—MR. TREVES' HAPPY DISAPPOINTMENT—DR. THEODORE WILLIAMS HONORED—PROFESSOR NEISSER'S PAPER APPRECIATED—ST. GEORGE MIVART AND MEDICINE—DISSATISFACTION WITH MIDWIVES' BILL—LETTSONIAN LECTURES.

ONE curious effect of the war has been a great addition to the public social duties of the royal family, in the direction of visiting the wounded in their hospitals and in the inspection of the various hospital staffs. In one sense it is, of course, a pure formality and yet in another it is a graceful personal recognition of loyal service and patriotic devotion on behalf of the nation which it would be difficult to parallel under our colder republican forms.

This week a visit was paid by the Prince and Princess of Wales to a hospital in somewhat curious quarters, a suburban theater, which had been converted and lent for the purpose by the proprietor, Mr. Alfred Cooper. This is known as the Surbiton Princess of Wales' Home for convalescent soldiers and has already twenty-six inmates, to each of whom the Princess presented a pocket-book containing her photograph and a pocket-testament.

The same day the Prince and Princess received at Marlborough House the staff of the new Welsh Hospital, which is just ready to depart for the front. As might have been surmised from the fact that it is headed by a Thomas and contains two other members of the same illustrious patronymic, a Roberts, an Evans, while mention is made of a Boynmawr Jones, the entire staff is Welsh. It is to be presumed that the staple convalescent food at the hospital will be that appetizing and largely nutritious little rodent, the Welsh rabbit, in which case it will become the most popular refuge in the service, unless this be neutralized by permitting the staff to indulge in the sweet accents of their native tongue in the wards.

Both of these functions are typically significant of the patriotic generosity with which all classes of people are responding to the needs of the country in every conceivable way in this war. In spite of the large sums spent by the Government, the motto of the campaign ought to be the inscription across the front of most of the London hospitals, "Supported by Voluntary Contributions," so enormous has been the outpouring of private liberality and self-sacrifice for hospitals, ambulances, convalescent homes, transports, supplies, even troop and regimental equipments, guns, etc.

Of the eight hospital ships now lying in Durban Harbor, three are equipped entirely by private philanthropy, while two, if not three, of the remainder have been placed at the disposal of the Government by the companies owning them. These contain some 1,200 patients, and their efficiency may be estimated by the brilliant record of one of the largest, the "Nubia." Out of 674 cases discharged from the hospital from January 11th to March 10th, no less than 443 have returned to duty, and only 170 were sent on to Wynberg or Southampton as unfit for further duty.

The unanimity of all the medical reports from the front leaves little room for doubt that the Boers, as we ventured to predict some weeks ago, have become dissatisfied with this rapid recovery-rate and the ladylike character of the wounds made by the Mauser bullets and have resorted to less humane but more effective missiles. Nearly all recent descriptions of wounds comment upon their changed and much more serious character, and in almost every Boer trench captured are found the deadly and inhuman soft-nosed bullets, sometimes in packages carefully concealed and even buried, showing that the Boers know well that they are violating the rules of civilized warfare by using them. Mr. Treves even writes of finding "poisoned bullets," as the men term them, coated with a bright green composition which he thinks, however, is a harmless mixture of sulphate of copper and tallow, although he is bringing some home to be analyzed.

In nearly all of Mr. Treves' letters there is a suppressed but obvious undertone of almost pathetic regret at the small opportunities afforded in this campaign for abdominal surgery which, apart from patriotic motives, was his principal professional interest in going to the front. The reason for his disappointment is, however, a most happy one and one that he heartily rejoices in, *viz.*, the freedom from complications and rapid recovery-rate of abdominal wounds made by the Mauser bullet. It is a high tribute to Mr. Treves' conscientious humanity that he so promptly recognized the improved prognosis of these cases and at once threw the weight of his great opinion against the course which all his previous experience had led him to regard as advisable and along which his sole hope of really interesting and valuable professional experience in the campaign lay. One sentence in his last letter sums up the net result (speaking of a fearful penetrating wound of the abdomen), "Following the indications taught by this cam-

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paign, I advised against operation; he made an excellent recovery."

A compliment has been paid the medical profession and a well-deserved honor bestowed by the election of Dr. C. Theodore Williams, well known for his work in pulmonary diseases in connection with the Brompton Hospital, as President of the Meteorological Society of Great Britain, in place of the celebrated Professor G. J. Symons, whose death occurred a few days ago. The honor is the more distinguished as this is the Jubilee Year and is being celebrated by various functions, including a visit to Greenwich Observatory and, of course, a dinner.

Much interest has been excited in the profession by the admirable paper of Professor Neisser in the MEDICAL NEWS, and this is aptly expressed by the long "leading article" (Anglice for "editorial") in a recent number of the *British Medical Journal*. Much of the doctrine advanced by the writer is comparatively new to the English practitioner and he is much impressed by the long vista of dangerous sequelæ of the common and hitherto lightly regarded gonorrhea opened up by it.

The medical world has a collateral interest in the death of the celebrated scientist, St. George Mivart, who died this week, in that he was both an M.D. and for many years lecturer upon zoology in St. Mary's Hospital Medical School. His "Lessons in Elementary Anatomy," although written many years ago, still remains one of the best introductions to zoology and comparative anatomy for the medical student. The circumstances of his death have also a philosophic interest for us as illustrating how hard superstition dies. Occurring as it did only a few weeks after his most intolerant denunciation as a heretic by Cardinal Vaughan, it is widely claimed by the faithful as a direct judgment of Providence, so that appeal was made to his family physician, who promptly testified that Dr. Mivart died of valvular heart-disease of long standing which had already brought him once to death's door and been a source of anxiety to his friends for two years past.

Grave dissatisfaction is expressed with the Midwives' Bill now before Parliament by the rank and file of the profession and indignant meetings are being held to protest against some of its provisions and the alleged apathy of certain members of the General Medical Council. The gist of the matter appears to be that under cover of a pretence to regulate and reform midwifery, the midwife is to be given a legal standing as a practitioner of a certain branch of medicine, independent of medical control or supervision, which she has never yet enjoyed in England. This the profession very properly resents.

Sir William Banks' admirable course of Lettsonian lectures upon cancer of the breast, delivered before the London Medical Society, closes in a more encouraging tone than is usual in discussions of late upon this gloomy subject. Although believing that the alleged increase of cancer is real and not merely apparent, and attributing it largely to over-feeding and the richer food-supply of recent years, our operative results have improved so vastly that the outlook for the future is distinctly more hopeful than before. He cites a characteristic series of 175 consecutive cases of cancer of various regions, operated upon in his own hospital, the Liverpool Infirmary, of which no less than 108 had remained free from recurrence, 75 of them for three years, 40 of these from three to six years, 28 of them from seven to fourteen years, 5 from sixteen to twenty-one years. A recovery-rate of nearly 65 per cent., which will be distinctly increased as earlier diagnosis and more radical removals are made, will help us to look with less distress upon a considerable rate of increase in the frequency of the dread disease itself.

TRANSACTIONS OF FOREIGN SOCIETIES.

British.

SKIN AFFECTIONS IN BRIGHT'S DISEASE—RUPTURE OF THE ESOPHAGUS—NEW METHOD OF PERINEAL PROSTATECTOMY—SUGGESTION FOR THE TREATMENT OF GOUT—PREVENTION OF VALVULAR DISEASE IN ACUTE RHEUMATISM—REPORT ON THE FORCIBLE REDUCTION OF SPINAL DEFORMITY.

AT the Royal Medical and Chirurgical Society, March 13th, H. THURSFIELD read a paper on the skin affections met with in Bright's disease. In the early stages of this disease are seen pruritus, urticaria and eczema; in the late stages and in uremic conditions universal erythematous, bullous or desquamative eruptions. Purpura and other hemorrhagic affections are rarely seen in Bright's disease, while the local affections which occur associated with extreme edema are simple local infections and entirely independent of the nephritic trouble. The occurrence of puritus in Bright's disease is well known, while urticaria has been less often referred to. He questioned the existence of a casual relation between the diseases of the kidneys and eczema, as there are no statistics to prove that eczema is more common in persons who are passing albuminous urine than it is in others. With reference to the eruptions of the late stages of Bright's disease, all writers have described an eruption consisting of papules and macules, which spread until the rash is confluent, and is followed by desquamation. This symptom is often the immediate precursor of uremic convulsions and, hence, is looked upon as a particularly unfavorable sign. A general bullous eruption occurring under similar circumstances, or a general desquamation, is less commonly met with. The most plausible explanation of various rashes is that they are due to some toxin circulating in the blood, and are therefore similar to the rash sometimes seen in septicemia, to the rash which follows the ingestion of

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certain drugs. If such a toxin exists, its nature is unknown. It certainly is neither urea nor uric acid.

PYE-SMITH said that the noticeable thing about eruptions in connection with kidney disease, is their rarity. In his experience the most common one consists of large discrete papules with considerable pruritus. He was not at all satisfied that eczema is ever due to Bright's disease. It can of course coexist with it. He put aside the purpuric conditions as only a part of the general tendency to hemorrhage.

At the meeting of this society held March 27th, R. L. BOWLES and G. R. TURNER related a case of rupture of the esophagus in a woman, aged sixty-two years, who had taken some aloes and rhubarb the previous night. The drugs purged her, as she intended, but they also set up violent vomiting. She then drank a glass of salt and water to clear her stomach, and in the vomiting thus brought about she collapsed and died twenty-two hours later. Before death there was emphysema of the neck, and the signs of pneumothorax were also present. At autopsy the rupture was found to be in the lower third of the esophagus, as has always been the case in those instances of this accident which have been hitherto recorded. Since the posterior mediastinum can be exposed without injury to any vital organ, the speakers advocated an operation on such lines, for all similar cases. If pneumothorax already exists, there is no especial need of avoiding the pleura.

At the Medical Society of London, March 12th, P. J. FREYER described a new method of performing perineal prostatectomy. The first step of the operation is the performance of external urethrotomy in the usual way. This permits of the passage of one finger into the bladder, by which, with another finger in the rectum, the surgeon is enabled to define accurately the shape, size, density and extent of the prostatic growth in a manner not possible by any other method, except, perhaps, a suprapubic cystotomy. By these same fingers the tumor can be pushed well into the wound so that its capsule can be incised, and the tumor shelled out or removed piecemeal. Moreover, the fingers act as a guide to the cutting instruments, so that it is possible to remove the whole of the growth and at the same time leave the mucous membrane covering it. A large perineal drainage-tube lessens the danger of sepsis. The operation is not suited to patients in whom the middle lobe is very much enlarged and projects into the cavity of the bladder. In very fat men, too, it is possible that the finger of the surgeon might not be long enough to reach above the growth so as to hook it down.

A. P. LUFF read a paper on the gelatinous form of sodium biurate and its bearing on the treatment of gout, at the meeting of March 26th. He said that when first introduced into the blood, uric acid is in the form of a quadriurate of soda; that this is a very unstable body and is soon changed into the biurate, assuming first a gelatinous form and after that a crystalline form. While in the gelatinous form it is capable of elimination through the kidneys. When once in the crystalline form it is very insoluble, and is deposited as such in the tissues. This deposition is admitted by all to be associated with an attack of gout. Any treatment which will therefore delay or prevent the change from gelatinous to crystalline biurate will ward off an attack. By a series of experiments he determined that sodium salts accelerate the crystalline formation and so hasten an attack; that potassium salts delay not only the conversion of the gelatinous biurate into the crystalline form, but if the process is started they also delay its progress. Lysidine was found to possess the former of these attributes, and lithium the latter of them, but neither was as powerful as potassium salts. Piperazin had scarcely any effect. For this special purpose in the treatment of gout, the potassium salts rank first, and lithium salts and especially lithium carbonate come next; while lisidine and piperazin have scarcely any effect, and sodium salts are positively harmful. The author of the paper denied that an attack of gout is brought on by an excess of acid in the blood, affirming that the reverse is always true, namely, that the blood is more than normally alkaline when an attack occurs. He explained the presence or absence of pain as due to differences in the rapidity of deposition. When the crystals are deposited very rapidly there is pain.

At the Clinical Society of London, March 9th, R. CATON read a paper on the prevention of valvular disease in acute rheumatism, by a method which he has systematically followed during the last fifteen years with nearly 500 patients. They were put upon a light diet and given salicylates and cholagogues, and the following measures were also enforced: Absolute rest in bed for several weeks; the application of a series of small blisters, one at a time, each followed by a poultice in the course of the second, third and fourth dorsal nerves; sodium or potassium iodide in ten-grain doses three times a day. The object of the rest in bed was to protect as far as possible the softened valve-cusps. The object of the blisters was to stimulate the trophic nerves of the heart through the sensory filaments of the related skin area, and so to hasten repair and absorption, just as reparative processes are hastened by blistering the adjacent skin over an inflamed joint. The object of the iodides, to which mercury was sometimes added, was to help the absorption of the at first imperfectly organized inflammatory products in the cusps and endocardium. Caton believed this treatment to be of use only in the first two or three weeks. Fifty-four patients were admitted to the hospital with a bruit apparently of recent origin. Thirty-four of them left the hospital with hearts apparently sound, while twenty were believed to have valvular disease. Thirty patients developed

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the first signs of valvular trouble in the hospital. Of these twenty-seven were discharged with hearts apparently sound, and three with valvular disease. He insisted that every case of acute rheumatism should be regarded not merely and essentially as rheumatism, which is comparatively unimportant, but first and before everything else as a case of impending peril to the heart, endangering the whole future life of the patient. Whenever the heart is sound at the outset the practitioner should examine it daily. If the above-mentioned means of treatment are persisted in for six weeks, the percentage of recoveries with sound hearts will be larger than by less careful methods of treatment.

R. JONES and A. H. TUBBY made a report, March 23d, upon ninety-nine cases of forcible reduction of spinal deformity, the observations upon which the report was based having extended over a period of more than two years. Their conclusions were that the danger to life is not great; that far from inducing paraplegia, the operation is rather a curative measure; that abscess formation is less frequent; that the risk of disseminating tubercle is a negligible quantity; and that there is no risk of a flail-like spine. The contraindications are: Cervical and high dorsal curves, unless associated with paralysis; ankylosed spines; large and angular deformities; evidences of tubercle elsewhere; an age under two or over twenty-two years; and the presence of abscess, unless there is paraplegia. The object of the operation is not to obliterate all the prominence, but to give as erect a position as possible. The after-treatment demands constant personal attention, and an abundance of fresh air, and it should be continued for a period of three years.

SOCIETY PROCEEDINGS.

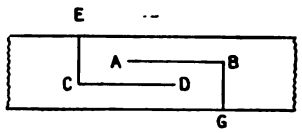
NEW YORK ACADEMY OF MEDICINE—SECTION ON ORTHOPEDIC SURGERY.

Stated Meeting, Held March 16, 1900.

A. B. Judson, M.D., Chairman.

Lengthening the Tendo Achillis.—Dr. R. A. Hibbs presented five patients affected with talipes equino-varus, the result of infantile paralysis, on whom he had performed a new operation, as follows: The tendo Achillis, having been exposed by a parallel incision 1½ inches in length, made to its outer side, was cut transversely within ½ inch of its insertion, through two-thirds of its substance, and, with the turned knife, it was then split upward a certain distance. A quarter of an inch above the end of the longitudinal cut another transverse cut was made from the opposite side through two-thirds of the substance of the tendon, and, the knife being turned, the tendon was again split to within ¼ inch of the first transverse incision. Thus, the tendon was severed in such a manner as to secure its lengthening and at the same time to preserve its continuity. In Figure 1 the first transverse cut would be from E to C, the first longitudinal from C to D, the second transverse from G to B, and the second

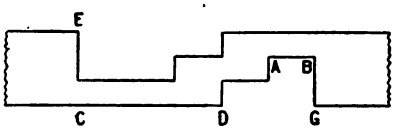
FIG. 1.



Showing the lines on which the tendon is to be incised.

longitudinal from B to A. When traction was applied lengthening would occur as shown in Figure 2 and it would be equal to the sum of the two longitudinal cuts minus the sum of the

FIG. 2.



Showing the mechanism of elongation after incision.

two laps of ¼ inch each. In Figure 1 if C D is ½ inch, B A ½ inch, A to E C ¼ inch, and D to G B ¼ inch, then the lengthening would be ½ inch plus ½ inch minus ¼ inch plus ¼ inch, or 1 inch minus ½ inch, or ½ inch. It is a matter of choice whether the longitudinal or the transverse cuts be made first, but it is important that the skin incision should be to the outer side of the tendon in order to prevent the scar from falling directly over the tendon, which might be rubbed by the shoe. Dr. Hibbs has learned since operating by this method that it has been practised in a case of traumatic equinus by Sporon, a Dane (*Hospitals tidende*, 3d series, Vol. IX., No. 50, 1891).

Case I.—In a girl 8 years old, a short tendo Achillis had prevented flexion of the right foot within 10 degees from a right angle. It was lengthened by this method on September 22, 1899, and the foot was fixed at a right angle. In two weeks slight voluntary motion was allowed and the muscle received daily exercise with some resistance from the attendant. After ½ inch lengthening had been secured there was positive resistance to any further flexion of the foot than was allowed by the lengthening. The child walked with strong control of the os calcis.

Case II.—In a girl 12 years old flexion of the left foot was impossible within 15 degrees from a right angle. The tendon was lengthened ¾ inch on July 6, 1899. With suitable after treatment the result was an excellent position of the foot with strong action of the muscles of the calf.

Case III.—In a girl 14 years old flexion of the right foot was prevented within 10 degrees from a right angle. The tendon was lengthened 1¼ inch on June 16, 1899, an unusual amount in order to relieve extreme valgus, with resulting

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good control of the os calcis. As the valgus was recurring a tendon grafting would be done.

Case IV.—In a girl 8 years old the left foot was inflexible within 45 degrees from a right angle, appearing to be almost in a straight line with the leg. The tendon was lengthened 1¾ inch on June 16, 1899, and the foot fixed at a right angle. It was believed that an ordinary tenotomy would have been followed by loss of usefulness of the calf-muscles. It was seen, however, that this action was excellent.

Case V.—In a girl 14 years old the right foot had been inflexible within 15 degrees from the right angle and the tendon was lengthened ¾ inch on June 16, 1899, and the foot fixed at 90 degrees. The muscle and tendon showed enough strength to sustain the weight of the body on tip-toe and this had been true of all the cases presented. In no case had an effort been made to correct the equinus beyond a right angle. Further correction might be desirable in congenital, but not in acquired equinus.

That the strength of a tendon lengthened in this way is not seriously impaired is proved by the observation that in every case there had been resistance to the carrying of the flexion beyond the limit allowed by the operation and also by the ability of the muscle and tendon to sustain the body on tip-toe. The process of repair had been rapidly completed after operation by this method, which presented obvious advantages over those in which sutures were applied to the tendon. But the greatest advantage had been found in the readiness and certainty with which the desired amount of lengthening could be exactly secured.

A perfect gait required the "spring" or elastic quality imparted by the muscles which enabled the anterior part of the foot to sustain the weight of the body in walking. Without this power the gait would be that of one who had a wooden foot or a foot affected with talipes calcaneus. In equinus following infantile paralysis it is probable that the muscles are more shortened than the tendon and, as lengthening the muscles is generally impossible, operative relief has to be sought by lengthening the tendon. In operating, however, it is important, on the one hand, to avoid leaving the tendon so long as to impair the action of the muscle, and, on the other hand, to avoid leaving it so short that the equinus will not be sufficiently overcome. This method enables the operator to maintain exactly the proper relation between the length of the tendon and that of the muscle. By subcutaneous tenotomy the equinus is readily corrected, but in many cases the result is a serious defect in the gait from undue lengthening of the tendon and resulting shortening and inefficiency of the muscle.

Dr. A. M. Phelps said that it is immaterial whether a muscle is operating at its full length or whether the same amount of muscle tissue is operating at a shorter leverage. The power is precisely the same, as instanced by putting the arm nearly straight or flexing it. So long as the amount of muscle-cells remain, the power is the same. Open incisions for primary operations on the tendons should be avoided, and in the ordinary subcutaneous operation the tendo Achillis should be made too long, if possible, by overcorrecting, the normal process of repair being relied on to fill in the space between the ends and to secure an accurate and efficient adjustment of the relative lengths of the structures. He has repeatedly seen 4 inches replaced after the division of the tendo Achillis and perfect function of the muscle restored.

Dr. Hibbs said that an alteration in the relative length of the muscle and its tendon modifies the effect of muscular contraction. If the tendo Achillis is lengthened the contractile power of the muscle-cells may remain, but the extent to which the os calcis can be raised by the contraction of the muscle will be lessened. If the muscles of the calf can not momentarily sustain the weight of the body on tip-toe in the act of walking, they are not of great use.

Dr. H. L. Taylor said the fear of impairment of function after ordinary tenotomy properly done and followed up is unnecessary. It was formerly the custom after division of the tendon to put the foot up in the deformed position and to correct the deformity at subsequent sittings. Correcting the deformity immediately after the operation is attended with good results. It is possible to elongate the tendon too much, but such cases were rare. He has been looking for years for a case of ununited tendon after tenotomy, but has not found one. The exact amount of correction would vary with the kind of case. It is a matter of judgment. The results in the patients shown are admirable.

Dr. H. Gibney said that he has seen one or two adults in whom the tendons had failed to unite. He can see no advantage in the new operation over the ordinary subcutaneous method, after which many cases acquire a length of 2½ inches. The results shown, however, are excellent and will be better still after the tenderness and indisposition to voluntary motion have worn off.

Dr. J. P. Fiske said that the results shown are good and that the details of the new operation are very interesting. It is, however, a departure from the rule of simplicity that characterized the old operation which, almost without exception, gave results and left nothing to be desired.

Dr. A. B. Judson admired the mechanical ingenuity displayed in the operation. A short tendo Achillis produces no deformity and does not interfere with the normal gait, excepting in cases in which the tendon is extremely short. Normal flexion of the ankle may be said to be about 40 degrees within a right angle, but with 10 degrees the gait is normal in appearance and ability and the patient experiences no inconvenience, even when assuming the unusual position of squatting. In measuring the equinus it is desirable to have the leg flexed on the thigh in order to relax the gastrocnemei which have their origin in the femur. The foot being held

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flexed manually, so far as it can be done painlessly, one arm of the goniometer may be made parallel with the crest of the tibia and the other parallel with the inferior surfaces of the os calcis and the head of the first metatarsal bone. The degrees can then be read on the scale. In the use of the club-foot brace for congenital equinovarus, setting the upright backward from a right angle lengthens the tendo Achillis, which is contrary to what might have been expected. The object of setting it backward is to increase the leverage applied for the reduction of the varus. Lengthening of the tendon follows this adjustment in every case.

Dr. Taylor a few years ago offered an explanation of this action of the club-foot brace by the theory that, as the inner border of the tendo Achillis is shorter than the outer border, when the foot is rotated outward by the brace, the inner border is first put on the stretch and gives way, fiber after fiber, thus unexpectedly lengthening the whole tendon.

Dr. Hibbs said that he has operated in this manner on more than twenty patients, but those presented are the only cases in which sufficient time has elapsed to make the presentation useful. It is vastly more important to preserve the action of the muscles than to relieve the deformity, which is generally not serious and in some cases is absent.

THE CHICAGO MEDICAL SOCIETY.

Stated Meeting, Held March 14, 1900.

Gynecology and Surgery Abroad.—Dr. Albert Goldspohn read a paper in which he narrated his gynecological and surgical observations during a recent trip to Europe. He directed attention to the views and the practice of prominent operators in Europe with reference to subjects upon which opinions differ, and to the practical bearing of some of the original researches in this field, as far as he became cognizant of them from participating in the proceedings of the International Gynecological Congress at Amsterdam and of the Gynecological and Surgical Sections of the German Naturalists' Association at Munich, and from seeing a score of German and Austrian operators at work in their individual institutions.

Permanent Non-Progressive Sequential Ataxy.—Dr. Sanger Brown read a paper on this subject in which he reported three cases. He described as minutely as possible the primary illness to which the ataxy was secondary in each case. He said that the cases, from the clinical side, had much in common, presenting more or less severe acute and probably infectious symptoms of varying duration and character, which resulted in profound general muscular ataxy, showing itself conspicuously in the muscles concerned in articulate speech. In none was there any lasting impairment of special sense or of general sensation. The ataxy has been essentially stationary; the general health has been excellent after the primary acute illness subsided and the mental condition is normal. In Cases I. and II. the residual symptoms are very similar, almost identical throughout, while in Case III. there remained other prominent symptoms besides ataxy. The essential question in the opinion of the writer is, what part or parts of the normal adult brain have to be injured in order that ataxy shall result?

Experiments on the lower animals, studies in embryology, and clinical and post-mortem observations on the human subject have abundantly demonstrated definite relations between the neurons of the cerebellum and those of other parts of the nervous system, both sensory and motor. Assuming that the cerebellum exercises a predominating influence upon the coördination of voluntary muscular movements, then, it would not be unreasonable to assume in the cases cited that one effect of the primary disease had been in two of the cases to permanently injure those parts of the organ subserving this function, or, what would amount to the same thing, a considerable number of the neuron processes connecting it with other parts of the nervous system. Excepting in the cerebellum or its peduncles, these connecting fibers are so intimately related to, and intermingled with, other structures that it is difficult to conceive of any acute pathological process that might severely injure or destroy them without also injuring the others, thus giving rise to other permanent symptoms. And yet it is hardly more difficult to conceive that a toxin might limit itself, say, to the cells of Clark's column, which are believed to send their processes to the cerebellum, forming the so-called direct cerebellar tract, thus connecting it with the sensory nervous system, than to understand why in certain cases only the bodies of the peripheral motor neurons should be attacked, as in anterior poliomyelitis.

The condition of the muscular system, especially in Cases I. and II., was very similar to that of one of the well-marked and advanced cases of hereditary ataxy in the series reported by him several years ago.

If it is conceded that the influence of the cerebellum is paramount in controlling muscular coördination, when the position and extent of the various tracts are remembered which connect it with other parts of the nervous system, it is not difficult to understand how far apart pathological processes might be situated, and yet by destruction of one of these connecting paths throw the cerebellum out of the circuit, so to speak, and thus give rise to ataxy. In many cases of the progressive types of ataxy, as locomotor ataxy and the so-called hereditary ataxies, the pathological process apparently begins and is for a long time confined to the spinal cord, while in the cases described it was apparently in the brain.

Dr. Brown said that the mere clinical report of such cases by itself was of little value in helping to locate the center or centers in the brain

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which control muscular coördination, or the relation of these centers with other parts of the nervous system; but if the cases could be brought to autopsy they might go a long way in that direction. His main purpose in describing them is founded on the hope that in the end, if enough similar cases are recognized, autopsies may be obtained which will render valuable contributions to a subject resting at the present time in considerable obscurity. A not very exhaustive examination of available literature has revealed several reports of cases similar in some respects to those of his. They have been variously designated as acute ataxy, bulbar ataxy, the symptom complex of Friedreich's ataxy—all following acute infectious diseases. In none, however, so far as he is aware, has the ataxy alone been of long standing, if, indeed, it has yet become stationary.

Ankylosis of the Stirrup.—Dr. J. Holinger read a paper on this subject. He said the condition is comparatively frequent, and leaves the patient utterly hopeless. The pathology has been studied by Professor Lieberman, and was given by the essayist in a paper read before the Chicago Pathological Society. The otologist is able to make an accurate diagnosis with the aid of functional tests. The treatment is unsatisfactory; the prognosis unfavorable. The number of cases in which post-mortem examinations have verified the diagnosis of this disease in the living is increasing year by year.

Meeting of March 28, 1900.

Some Therapeutic Observations.—Dr. William T. Belfield read a paper on this subject in which he considered the hemostatic properties of gelatin. After referring to the experimental work of Dastre and Floresco in 1896, he reviewed the Lancereaux treatment of aneurism by subcutaneous injections of gelatin, and proceeded to a discussion of this agent as a styptic and hemostatic. As a styptic, gelatin has earned a foremost place since it seems never to have failed when applied in ten- to twenty-five per-cent. solutions to arrest bleeding, even when the usual styptics had failed. Among the cases in which it has been tried were wounds, including one in a case of hemophilia, bleeding from the nose, stomach and uterus. The value of gelatin as a hemostatic has yet to be accurately determined. The literature of this subject is exceedingly scanty, a few cases reported by Bauermaster alone being available. These were invariably successful. The reader added reports of three cases in which subcutaneous injections of gelatin had been used to arrest hemorrhage in essential renal hematuria, malignant disease of the bladder, and malignant typhoid fever respectively. In the first two cases bleeding was promptly and permanently arrested. In the third no appreciable effect was produced. Bauermaster's observation, that in a case of chronic parenchymatous nephritis the use of gelatin was followed in two days by fatal uremia, led the reader to the experimental injection of two guinea-pigs with relatively enormous doses of gelatin solution. One of these seemed unaffected, while the other, when killed, showed congested kidneys. It would seem that existing chronic nephritis should contraindicate the use of gelatin.

Syphilis of the Female Breast.—Some years ago the author removed a woman's breast for what seemed to be a typical carcinoma. A year later manifestations of late syphilis led to inquiries, which revealed a clear history of syphilis in the patient nineteen years earlier, together with other manifestations of late syphilis. This patient showed a tumor of the remaining breast which closely simulated carcinoma, but which disappeared completely under the usual treatment for syphilis. It seems extremely probable that the tumor removed a year previous was a syphiloma of the breast. Another patient applied for treatment of gumma of the leg. A year before this patient had had a tumor of the breast with enlarged axillary glands. The breast had been removed by an experienced surgeon. The glands, which were not removed, quickly diminished in size after the operation. The patient's husband admitted syphilis sixteen years before. This, like the first case, seems to have been a syphiloma of the breast, but was mistaken for a carcinoma.

Primary Keloid.—A growth of this kind in a young woman was partly healed by the internal administration of thiosinamin. The remainder of the growth resisted the action of this drug. It was quickly removed by injections into the keloid of a twenty-five-per-cent. resorcin solution after infiltration anesthesia. Several weeks later the injected tissues sloughed off, leaving a thin, white natural scar. The cure has lasted two years.

Roentgen Rays for Removal of Hair.—Dr. Wm. Allen Pusey read a paper on this subject in which he considered the effects of Roentgen rays upon the tissues in general and reviewed the work done in this field up to the present time. The effects of X-rays upon the skin and subcutaneous tissues which suggested their use for therapeutic purposes are: (1) Changes in the epidermis itself or in its appendages. In a general way, these consists of hyperplasia of the least differentiated elements of the epidermis and atrophy of the highly differentiated elements as shown by blanching of the hair; out-fall of the hair, and trophic changes in the nails similar to those in the hair, sometimes resulting in interference with growth and in severer cases in shedding of the nails. (2) Changes in the corium and subcutaneous tissues which are all inflammatory in character. Of these effects of X-rays, the two which offer prospects of the utilization for therapeutic purposes are, first, its power of causing falling out of hair, and, second, its power of reducing inflammatory reaction and in influencing the nutrition of the tissues.

The method has been applied chiefly in four classes of affections: (*a*) In hypertrichosis, for the removal of undesirable hair. (*b*) In mycotic

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affections of the hair and hair-follicles, such as sycosis, tinea tonsurans, favus, where the removal of the diseased hair is an essential part of the treatment. (*c*) In the treatment of inflammatory affections, like chronic eczema, where the purpose is to stimulate the tissues and cause absorption of inflammatory products. (*d*) In certain specific affections, like lupus, where it is desired to cause destruction or absorption of tissues of low vitality.

Experience thus far demonstrates that in some cases the hair can be permanently removed by the use of X-rays and without damage to the tissues, and it is believed that the method will be found practical and efficacious for the treatment of cosmetic defects due to superfluous hair. The method has proved useful in deep-seated intractable cases of sycosis, and has also been successful both in tinea tonsurans and favus.

Its use in eczema does not seem to offer particular advantages over other methods of stimulating treatment, although in certain persistent thickened patches of chronic eczema it may have a field of usefulness.

Its most important field of usefulness perhaps will be in the treatment of lupus. Testimony to its efficacy in lupus comes from many quarters, and there is every reason to believe that it is a most valuable remedy in the treatment of this affection. The advantages it offers for the treatment of lupus are summarized as follows: (1) Efficacy; practically all of the cases which have been cured by this method have been of grave persistent character and had resisted for years recognized forms of treatment. (2) Freedom from pain of the treatment. (3) The character of the scars. All observers agree as to the excellent character of the scars following this method of treatment. They are soft, pliable and thin, and nearly approach the normal skin in appearance. The treatment of lupus by the use of X-rays is undoubtedly the same in principle as the treatment devised by Finsen by the ultra-violet rays of white light, one method consisting of using actinic rays of high value which are found among X-rays, the other using the actinic rays found at the violet end of the spectrum of white light. The method has been tried in various other affections in addition to those mentioned, but with what results it is still impossible to say. There is no ground for believing that the method will prove a panacea for skin diseases.

AMERICAN LARYNGOLOGICAL, RHINOLOGICAL AND OTOLOGICAL SOCIETY.

Meeting of the Southern Section, Held at Galt House, Louisville, Ky., March 30, 1900.

The address of welcome was delivered in a few well-chosen words by Dr. S. G. Dabney of Louisville, and was fittingly responded to by Dr. L. B. Graddy of Nashville.

Dr. J. A. Stuckey of Lexington, Ky., the efficient chairman of the Southern Section, then addressed the meeting in his characteristic manner. He said that although the organization had been effected only five years ago, its membership was now more than two hundred, actually engaged in the practice of these particular branches. He directed attention to the rapid progress that had been made in recent years in the explorations of the cavities of the nose and throat, reviewing step by step the introduction of cocaine and anesthesia, the use of illumination of cavities and the possibility of doing bloodless operations by means of the suprarenal extract. The use of ointments, powders and douches is now of questionable utility and the atomizer fiend is falling in line with the hypodermic fiend. He called attention to the fact that the laryngologist now removes the larynx and the patient not only lives but talks; the otologist chisels away portions of the skull and the patient not only lives but hears; the rhinologist makes the nasal passage as smooth as a gun-barrel and the patient not only lives but snorts. All this progress has been freely given to the public and the physician has made himself the servant of the profession; there is no longer any clash between the specialist and the general practitioner.

Dr. Hanua W. Loeb of St. Louis presented the first paper, its title being "One Hundred and Seven Polypi Removed at One Sitting, with Remarks as to the Value of the Electrocautery Snare in Removal of Polypi." The case was that of a negro man in the City Hospital who had been operated on for sarcoma of the orbit with removal of left eye. The patient was very weak at the time of operation, which was completed at one sitting. Sixty-eight pieces were removed from the one side and 59 from the other; eliminating 20 of these, there remained 107 well-formed polypi, which Dr. Loeb exhibited. Their weight was 77 grains and they would about fill a two-ounce bottle.

Dr. Loeb used the snare for the reason that it enabled him to remove all at one sitting, because of the freedom from ordinary electrocautery snare in that the wire did not pass entirely through the cannula but was more easily threaded. The patient had some recurrence but left the hospital and has not since been located.

Dr. Norval H. Pierce of Chicago thought the operation would have been impossible with any other form of snare, because of the profuseness of the hemorrhage with the cold snare in removal of tumors. He thought an improvement could be made in the shaft of the snare used.

Dr. Thompson of Cincinnati mentioned a case of a patient with two very large polypi, one being 2½ inches long and ¾ inch in diameter; the other 1¼ inches in length and ¾ in diameter. One feature of it was a constant headache for fifteen years which never left the patient during her waking hours, due to supra-orbital neuralgia.

Dr. S. G. Dabney of Louisville reported a case of a fibroid-mucous polypus which caused constant vomiting. It was removed with the electrocautery snare, with no subsequent trouble.

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Dr. Stucky mentioned a case operated on eight years before. The nose was two and a half inches at the base, turbinates absorbed, cartilaginous septum gone. The polypi were removed at three or four sittings with the cold snare and curette. The antrum was full of them and the ethmoid had to be curetted. He has operated twice since then, but during the last two years has had no reported recurrence. A twenty-five-per-cent. chromic-acid solution was used last time with alarming gastric and nervous symptoms, with septic symptoms continuing for several days.

Dr. Loeb, in closing the discussion, said that in eight years of almost exclusive use of the electrocautery snare he had seen practically no secondary hemorrhage. He attributed much of this success to the cleanliness of his instrument. As to the recurrence of the polypi after the use of the electrocautery snare he was not so enthusiastic as in earlier years, but still believed that its possibility was greatly lessened by the use of the electrocautery. There was a recurrence in the case under discussion, but the man had not been found and no definite report could be given.

Dr. Norval H. Pierce of Chicago then presented a paper on the "Treatment of Peritonsillar Abscess, with Exhibition of New Instruments." The chief objects of the paper were to accentuate the proper place for incision and to present instruments to meet the indication. Nothing is more annoying than an unsuccessful attempt to reach the pus and nothing more gratifying than its removal, which was nearly always curative. Early incision is not only justifiable but indicated, for they do not always rupture spontaneously. He referred to the fact that most authorities recommended incision at the point of bulging, generally at the upper anterior surface of the anterior pillar, 5 cm. from its edge. This bulging is not always due to pus but may be from edema or from the tonsil itself. Spontaneous rupture takes place through the anterior pillar and that by far the most frequent place is the fossa supratonsillaris and this is the proper place for incision. This fossa may be best seen by pulling out the tongue, depressing its dorsum with a spatula, pushing outward the opposite corner of the mouth, and inclining the head to the opposite shoulder. This fossa as situated between the anterior and posterior palatal arches and above the tonsils; its opening is triangular, the base formed by the tonsil and the anterior and posterior borders by the pillars of the fauces. It extends inward, upward and outward into the soft palate, downward and anteriorly between the tonsil and plica triangularis and sends prolongations downward for a variable distance behind the tonsil. The abscess may begin in the upper or palatal portion or even behind the tonsil; wherever it might be, it could be best reached by incision at a point between the anterior and posterior pillars; this was the emphatic point of the paper.

Dr. Pierce then exhibited certain instruments devised by him for reaching this abscess, one of which was a knife with blade at right angles to the shaft, cutting edges anteriorly and posteriorly. This, to be used when the mucosa is too dense for the forceps, was also exhibited. With these latter the incision is ordinarily to be made, using them as in blunt dissection.

Dr. Loeb opened the discussion by confessing that he had been trusting to luck in these operations and that he had been frequently disappointed by failure to find the pus at point of bulging. He intended to work on the fossa supratonsillaris hereafter.

Dr. Cheatham also confessed to frequent disappointments and failure to find pus. He had never opened at the supratonsillar fossa. The abscesses pointing posteriorly had given him the most trouble.

Dr. Cochran said that his patients had been unable to open their mouth to any great extent and that he usually employs a syringe with very hot water until the parts relax. He then opens at the point of bulging with a straight or partially curved knife.

"Acute Thyroiditis" was the title of a paper presented by Dr. D. Bradon Kyle of Philadelphia.

He had seen two cases within two weeks, the only ones he had ever seen, and in reviewing the literature of this trouble emphasized the rarity of this condition. There are two forms, suppurative and simple. The latter form is more common in females between twenty and thirty years of age; sudden onset, vague pains in the neck, swelling of thyroid to size of a hen's egg, marked fever; swelling and fever begin to abate in three or four days. The suppurative form occurs in septic diseases, has a characteristic fever and general symptoms and local signs of suppuration. There is often an infection of bacterial origin, but most frequently the causal factor has not been located.

Like the suprarenal tissue the gland has no duct, three lobes with the middle lobe dwindled down to an isthmus, the secretion removed by the lymphatics of the glands and those surrounding it. Its function is problematical, inert in growth but necessary to the maintainance of health, functional activity greater in youth; rise of temperature after removal, blood becomes fibrous with a diminished function of the red blood-corpuscles similar to the change that takes place in pneumonia. Inflammation interferes with the manufacture and taking up of the colloid substances and goitre results oftentimes. Acute thyroiditis may occur in an already enlarged gland.

One or more lobes may be involved, rarely middle, may end in suppuration; irregular temperature, chills, edema of larynx and pharyngeal structures. The enlargement causes difficult swallowing, fever like that of typhoid, severe and depressing headache, vertigo and perhaps cyanosis.

Two cases were reported with recovery in both. The treatment was the administration of calomel for several days, salines, and cold continuously with ten minutes intermission each half-hour, and stimulating nourishment.

Dr. Jos. A. White of Richmond, Va., reported

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a case, the only one he had ever seen, occurring fifteen years ago. There was a swelling the size of a hen's egg over the trachea. Application of a blister of red iodide of mercury and iodide of potash in vaseline, which vesicates quicker than cantharides, gave quick relief. Dyspnea was a prominent symptom in this case and all symptoms were relieved in two or three days. Dr. Thompson of Cincinnati called attention to the possible difficulty in diagnosis, a suppurating brachial cyst simulating it very much. Dr. M. F. Coomes of Louisville, reported a case which had occurred in his practice in the '70's in which dyspnea had been a pronounced symptom and in whom a large goitre developed later. Dr. Kyle, in closing, stated that the function of the thyroid gland is problematical but it has considerable to do with health. Its vascularity is like that of a sarcoma. A goitre can be traced often to an acute inflammation of the gland. In a series of cases at the Jefferson Medical Hospital, reaching from forty to seventy-five a day, there had not been but the two cases reported.

The afternoon session was opened by Dr. J. A. White of Richmond, Va., who reported a case of death in four days following a simple operation for nasal synechiæ and inquired whether the death was a sequence or coincidence. The case was that of a young man presenting himself on December 8th with symptoms of constant headache, nasal obstruction and hyperoptic astigmatism. Dr. White first corrected the astigmatism and then broke up the adhesions of the deflected septum. After a few days the headache returned, but was less severe and there was still some nasal obstruction. A little chromic acid was then used. On the 23d he was looking very badly but nothing out of the ordinary was found. The temperature was 103.3° F., but under quinine came down readily. The next day he was found unconscious at the hotel, having been sitting in the same place for sixteen hours. Temperature was 101, pulse 90, slight contraction of the tendons of the left hand; no eye symptoms. All efforts to arouse him failed. Eight ounces of urine were drawn and found to be almost solid albumen. Dr. White at once thought of meningitis and of uremic poisoning; as to the former, he had never heard of a case of nasal traumatism or inflammation of the ethmoid cells or frontal sinuses non-purulent in character having been the cause of meningitis. He did not think it could have been a thrombosis and was inclined to the belief that his death was due to nephritis. He thought the rapidity of the man's death precluded meningitis. No autopsy was permitted. Dr. White admitted that simple operations upon the nose are very often followed by consequences out of all proportions to the traumatism, but did not believe that this was the cause of the man's death.

Dr. Kyle thought Dr. White was right in ascribing death to kidney lesion; it was either that or thrombosis, in his opinion.

Dr. Graddy had had no similar experience, but agreed that it was a case of advanced albuminuria.

Dr. Pierce also expressed himself confident that it was a case of chronic nephritis. He called attention to the apparent intimate connection between albuminuria and nasal operations, mentioning the case of a young man meeting with a nasal traumatism who developed a serious condition of albuminuria, yet whose urine had been examined for life insurance three days before the accident. He reported another case where the application of chromic acid increased the albumen to an alarming extent.

Dr. Cheatham did not think Dr. White's operation had anything to do with the death of the patient. He emphasized the occurrence of serious symptoms occasionally from the most trivial operations on the nose, illustrating it by the case of a patient who rapidly developed erysipelas after a trifling operation. He did not believe in predisposition playing a part in these troubles and said that the only predisposition he believed in was an abrasion of the nose.

Dr. White closed the discussion and expressed his disappointment at not receiving more information regarding the relation of the operation to meningitis. He was anxious to know if it would be possible for meningitis to have fully developed in such a short time without previous suppuration in the nose. He was fully aware of the dangers following nasal operations and said that it was his invariable rule to take the temperature the next day. He had seen violent attacks of tonsillitis follow within twenty-four hours, but had never been able to determine the connection between the two. He thought the erysipelas in the case reported by Dr. Cheatham came too quickly to have been due to the operation, yet he had seen cases where there seemed to be connection.

Dr. T. V. Fitzpatrick of Cincinnati, O., presented a paper entitled "Nasal Angioma." He reported the case of a woman, twenty years of age, with no nasal injury or disease. There had been hemorrhages for six months; not much obstruction to respiration; pulsation in nose; the tumor was attached to inferior turbinate with a slough on its anterior surface. The case was reported as the literature on the subject showed true angiomata to be rare. Dr. D. B. Kyle stated he believed these tumors to be a dilatation of the original blood-vessels. The tumor referred to in literature is a mixed tumor spoken of as a fibro-angioma or other combination. If it is a true blood-vessel tumor it is not a new growth; it is benign. Dr. N. H. Pierce said one is apt to confound the growths mentioned by the essayist with growths on the vascular turbinates. He referred to two cases in whom there was recurrent hemorrhage; in one the tumor was the size of a pin, in the other it was as large as a pea.

Dr. M. F. Coomes of Louisville, presented a clinical case of angio-fibroma of the nose and pharynx. When first seen the patient was exsanguine, a mass protruded from the mouth and nose, and a piece hung in the larynx interfering with his breathing, and the tongue was concave to accommodate the growth in his mouth. The

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greater part of the mass that could be reached was removed piecemeal by snaring, cutting and ligating. A Jarvis snare was pushed back on the growth, tightly applied and left on from 60 to 120 hours, then punctured and removed. The patient recovered but has still a large mass showing externally.

Dr. Joseph White of Richmond stated that it is impossible to entirely eradicate a fibroma; it will recur. Cases that are considered cured generally go elsewhere after a recurrence takes place and the original observer has classed it as a non-recurrence. Several cases of fibroma of the orbit observed by the speaker all had recurred. Dr. Coomes states his experience with fibromas was the same. They do recur. A cautery should not be used in these cases, it has no effect on the hemorrhage. The prognosis in the case presented is of course bad.

Dr. T. V. Fitzpatrick of Cincinnati reported a case of persistent nasal hemorrhage which had given him a great deal of worry. It followed the removal of a hypertrophied turbinate upon the right side with the galvanocautery. It is his custom always to ask a patient before a cutting operation if he has been a bleeder, and this one had stated he bled freely ten years ago but since that time had not. Two days after the operation he was found to be bleeding profusely, almost exsanguinated. This was controlled by a gauze packing, but after the second packing the bleeding occurred around it, due, he believed, to a subsidence of the swelling of the vessels and consequent loosening of the packing. A general pulsation all over the body was felt before each attack of hemorrhage. This vasomotor disturbance was seen to precede each hemorrhage. A hypodermic injection of ergotin given by the nurse caused dizziness, faintness and convulsive body-movements lasting fifteen minutes. Thirty-grain doses of bromide of sodium were given with a disappearance of the vasomotor disturbances and bleeding. The packing was removed without recurrence of bleeding. Dr. Dudley S. Reynolds of Louisville stated he had had good results from the use of suprarenal extract in a case of obstinate nasal hemorrhage in a patient not operated upon. A solution of dry suprarenal extract, macerated in one ounce of hot sterile water and ten grains of boric acid added after two hours, the whole being filtered. Application was made in this case with a mop of cotton to the whole septum which was bleeding. The same application proved effectual in this patient after an obstinate recurrence. He commended the use of suprarenal extract for obstinate and troublesome hemorrhage.

Dr. S. G. Dabney of Louisville stated that all had been delighted with the use of the suprarenal extract to prevent hemorrhage during an operation, but he did not think the results had shown it to be so successful in stopping a hemorrhage when it had once begun. Dr. J. A. White said he preferred a hemorrhage at the time he was operating and not afterward. The use of the suprarenal extract lays a patient open to secondary hemorrhage after the operation, and on this account he has abandoned its use. Dr. Hazlewood of New Albany, Ind., reported a fatal case of hemorrhage from the nose in which a physician previously had used persulphate of iron and a tampon, and in which he had used the suprarenal extract but without success. Dr. Thompson of Cincinnati said he believed the use of the suprarenal extract increased hemorrhage, and that he now takes the precaution to pack more carefully after its use. It gives a bloodless field at the time of operation. Dr. H. W. Loeb of St. Louis stated he did not see the utility of using the extract to prevent hemorrhage. The occurrence of a little hemorrhage tended to make one more careful. Dr. J. A. White of Richmond, Va., reported two cases which were of interest to him and of uncertain diagnosis. One was a man, forty-five years of age, who contracted whooping-cough and was apparently well of it for 2½ months when this peculiar condition developed. After attacks of coughing he would have a period of unconsciousness whether standing or sitting. The speaker was consulted because of an injury received by a fall following a spell of coughing. At the end of a coughing-spell his head would swim, and he would have a sensation of choking and a flushing of the face. His diagnosis was laryngeal vertigo. He had found nothing that did any good. In a succession of these cases what would do one good would fail in another. The other case was a fibroid growth of the tonsil in a young woman eighteen years of age. Examination of a piece removed for that purpose showed it to be a fibroma. A pedunculated or encapsulated growth can be cut down upon and removed, but this occupied the right half of the throat, extending down to the epiglottis and is a solid hard mass, without any evidences of the growth externally. He had suggested external incision for removal, but this had been denied him, and as a last resort he had used electrolysis. The lower part of the tumor had disappeared but the upper portion remained the same.

Dr. H. W. Loeb, speaking of the first case reported, believed it to be a case of true laryngeal vertigo. A case he knew of, occurring in the practice of Dr. Mulhall of St. Louis, had been much improved by a simple hygienic plan of treatment.

Dr. D. B. Kyle of Philadelphia reported the case of a man, sixty years of age, who had contracted whooping-cough from his grandchildren, who would gasp following a paroxysm until unconsciousness supervened, gradually beginning breathing again. Free purgation and the exhibition of the podophyllin and sodii phosphate gave great relief. In whooping-cough the only lesion that is discoverable is an enlargement of the glands at the back of the pharynx and esophagus, during a fit of coughing pressure is increased on the recurrent laryngal nerve.

Dr. M. F. Coomes reported the case of a woman 65 years of age in whom there was a growth similar to the one reported by Dr. White. He had

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advised operative interference but when cutting down on the tumor and finding the true condition he had desisted and advised against further interference.

Dr. Kyle reported the case of a girl, seven years of age, operated upon a few days ago, who presented a peculiar condition of the mastiod. The middle turbinate was bent down and was adherent to the base of the nose. There was so little scar-tissue as to make him believe it was congenital. The tear-duct was closed and pus came from the upper opening. Under anesthesia a probe was passed through the duct, but it was not found in the nose after the removal of the turbinate. Her antrum was opened in the usual manner but no pus found nor was the end of the probe located. Recalling the fact that there might be an anomalous condition present, he made an opening from the nasal side finding a distinct cavity separated from the anterior by a septum. This was perforated to obtain free drainage.

REVIEWS.

The Modern Treatment of Wounds. By JOHN E. SUMMERS, JR., M.D., Surgeon to the Clarkson Memorial Hospital. Omaha: Medical Publishing Company, 1899.

THIS little volume contains a good description of modern surgical principles and surgical technic, with illustrations of interesting cases occurring in the author's practice.

Operations-Vademecum. By DR. E. LESER, Professor in the University of Halle. Illustrated. Berlin: S. Karger, 1900.

THIS is a very good little book filled with numerous excellent illustrations taken from larger text-books. The author has succeeded in his aim to produce a valuable and terse reference-book for the general practitioner in the country or small town.

Notes on the Modern Treatment of Fractures. By JOHN B. ROBERTS, M.D., Professor of Surgery in the Philadelphia Polyclinic. New York: D. Appleton and Company, 1899.

THE author has collected and revised the papers he has published on this subject in various medical journals. The book is well worth the perusal of every one interested in the subject. Complete reduction, exact restitution of contour and perfect retention are the conditions of full success, and the author gives some valuable hints for the accomplishment of this end.

Clinical Lectures on Neurasthenia. By THOMAS D. SAVILL, M.D., Physician to the West-End Hospital for Diseases of the Nervous System; London Examiner in Clinical Medicine in the University of Glasgow, etc., etc. William Wood and Company, New York, 1899.

THESE lectures contain an excellent review of the present status of our knowledge with regard to neurasthenia. The lecture on the association of dyspepsia and neurasthenia is especially suggestive. Gastric derangement may very well be the basis for neurasthenia, but neurasthenia itself is very frequently a cause of the most varied symptoms of functional stomach trouble. Dr. Savill is of the opinion that the stomach symptoms in such cases have special features which enable one to distinguish them with more or less certainty from cases of true gastric derangement. The main points of differentiation are the instability and a variability of the symptoms, the fact that they bear no definite relations to meals, as in true gastric derangement, and that they are always accompanied by other manifestations of neurasthenia. Dr. Savill describes some very pronounced cases of neurasthenia from his own practice, and it is interesting to note that he considers the immediate and ultimate prognosis of the disease to be much more hopeful than some recent writers have declared.

Transactions of the British Orthopedic Society. Sessions of 1897 and 1898. Bristol: J. W. Arrowsmith, 1899.

THIS official document of the British Orthopedic Society constitutes the proceedings of the sessions of 1897 and 1898. Covering such an extensive period during which six sessions were held, the paucity of the subject matter considered is manifest. However, it is abreast of the advances of the hour, as shown by the discussions on coxa vera and tendoplasty. A new departure agreed to by the society was the election of corresponding members. Amongst the foreign non-residents, the leading American confrères are solely represented. This small volume of 89 pages is on the whole an improvement upon the last issue.

A Manual of the Diagnosis and Treatment of the Diseases of the Eye. By EDWARD JACKSON, A.M., M.D., Emeritus Professor of Diseases of the Eye in the Philadelphia Polyclinic, etc. Philadelphia: W. B. Saunders, 1900.

"THIS book is intended," says the author in his preface, "to meet the needs of the general practitioner of medicine and the beginner in ophthalmology," and consequently we find examination, diagnosis, and treatment discussed fully and in a practical way, while rare diseases and unusual operations are but briefly referred to. A separate chapter is devoted to remedies and their applications, and another, with many cross references, deals with ocular symptoms and lesions connected with general disease. Each chapter is followed by a short bibliography of accessible recent books and papers in English suitable for supplementary reading, and there is a very complete index. The great majority of the illustrations, signed F. J., are not only new, which is rare in an ophthalmological text-book, but they are satisfactory, which is rarer.

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ORIGINAL ARTICLES.

SOME OF THE REASONS WHY THE SURGICAL TREATMENT OF NASAL DISEASE HAS BEEN PLACED ON A CONSERVATIVE BASIS.[1]

BY CLARENCE C. RICE, M.D.,

OF NEW YORK;

PROFESSOR OF DISEASES OF THE NOSE AND THROAT IN THE POST-GRADUATE MEDICAL SCHOOL AND HOSPITAL.

I HAVE been asked to present to this Society a subject of such broad scope as will interest the general practitioner of medicine. I am convinced that many of the themes and discussions seen on the programs of section meetings would not be suitable here. I feel that this particular subject is in good taste because the general practitioner has done, and is continually doing much to broaden the horizon of the specialist. It need scarcely be said that the physician, who gives his sole attention to the treatment of a very limited portion of the human economy, is greatly hampered by his limitations, and sometimes forgets to take into consideration those broader etiological factors which the general practitioner places at their proper value.

It is very convenient to say here that one of the reasons why surgical operations on the nose and throat have been modified in frequency and in the severity of their character is because of a better appreciation of the fact that no one portion of the human economy can be properly considered a part by itself, independent of its intimate relation with the body as a whole; and consequently local causes of nose and throat disorder, we can safely say, are now overshadowed in importance by etiological influences proceeding from remote organs of the body.

In considering the reasons why nasal operations differ so widely in character from those which were performed in the earlier days, I have been strongly impressed by the fact that the character of the operation was formerly largely determined by the kind of instruments which happened to be devised at that particular time, and it must have been noticed that there has always been a strong inclination to employ a new particular instrument to the exclusion of all others. For example, there was a time ten years ago when many modifications of the old snaring apparatus —some of them very valuable—were added to the outfit of the rhinologist. What was more natural than to employ them? And it was not difficult to believe then that almost every case of moderate nasal obstruction, not of nasal polypi, and not even of true nasal hypertrophy, but the numerous conditions of simple vascular swelling, were suitable patients for the use of the snare. And so turbinated tissues which were performing a valuable physiological function, both in the front and in the back of the nasal chambers, were encircled by a cold wire and removed. And since this operation required considerable skill, it was a great temptation to physicians practising this specialty to perfect themselves in the use of the snare. It would be wrong to say that the snare alone was to blame for the too frequent removal of the soft tissues overlying the turbinated bones, for we know that rhinologists at that time were frequently in error in believing that these swellings were true connective tissue hypertrophies, instead of, as we now know them frequently to be, temporary vascular swellings and not the primary disorder, but due to other and more important pathologic conditions. The perfection of the galvanocautery also furnished the temptation to frequently destroy tissue when it would have been wiser to have acted in a more conservative manner. Drills and trephines, too, were used frequently, because apparently it was felt that these instruments would not have been devised unless the necessity for their use existed. Many of us remember when these instruments were invented. I recall the first electric storage apparatus—a French importation called "Trouvé's accumulator"—which was used in this country. The nasal and throat electrodes were crude in 1878 and 1879, but they were so much more attractive than any of the means of treating nasal disease which were then in the possession of the nose and throat specialist that the crudeness and unreliability of the newer instruments did not weigh much against them. It will be remembered that before this, that is, before the time of cocaine, of electrical mechanism, of spraying apparatus, and of oily medications, the physician was vainly endeavoring to astringe nasal erectile tissues with harsh solutions of silver, copper and zinc. If, with the invention of better nasal instruments, the rhinologist was tempted to use them with too little discretion it is not difficult to excuse his fault. The injudicious and unskilful use of these instruments injured for a long time the reputation of specialists in diseases of the nose and throat; not alone or so much because the leading specialists used too little discretion in their selection of cases for operation, as that semi-specialists all over the country were operating in a most careless manner. Men who had studied this specialty but a few weeks felt themselves competent to undertake any operative procedure on the nose and throat. The foremost specialists were not blameless, because they

[1] Read before the New York County Medical Society, March 26, 1900.

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were the instructors of the medical public and would-be specialists, both at their clinics and in their published writings. And since they freely demonstrated at their clinics the use of snare, cautery, and drill, their example was followed throughout the country. More conservative opinions are now practised and held by the specialists in the large cities, and the beneficial result can be noted in the more reasonable application of surgical measures to nasal disease. The infatuation, also, to become specialists in any one of the many departments of medicine and surgery after a preparation of only six weeks seems to be rapidly waning. And we are reaching a period of medical study where the necessity of a thorough understanding of all that should be known pertaining to a specialty is keenly appreciated.

Another reason why operations were performed too frequently and with less preparation in this rather than in other specialties was that the nasal cavities, in their anterior part, at least, could be so much more easily reached than other mucus-lined cavities. This was proven by the fact that the specialist in the first years of his practice devoted his entire surgical work to the most anterior portion of the nostrils. We know now that usually those anterior swellings were reflex in character, but temporary congestions, and that the real source of irritation was at that time undiscovered and unknown.

We cannot in a paper of this character enter too much in detail into the pathology and etiology of the various forms of nasal disturbance which produce obstruction and disordered function, but we shall perhaps interest you when we say that a large proportion of those cases of nasal swelling which were formerly supposed to be characteristic of so-called hypertrophic rhinitis, and which were always thought to demand operation, are due to irritation arising from some other part of the nasal chambers, or are, in many instances, the exhibition of an active or passive hyperemia caused by temporary or permanent disease of organs in portions of the body quite distant. The general practitioner has aided the specialist in keeping before him the intimate relation between disturbances in the nasal circulation and cardiac, pulmonary, hepatic, and renal disorders. It is difficult for the rhinologist to determine how largely a congestive swelling in the nose is due to local causes and how much to influences remote from the respiratory tract, but it should be our constant study to determine the exact value of each of the many etiological factors. It was difficult, and before the time of cocaine almost impossible, to detect the presence of inflammatory conditions, nervous derangements, and hidden growths in the most inaccessible portions of the nasal chambers and nasal sinuses, and to trace their effect upon the easily observed swellings which were formerly supposed to be the disease itself and not, as is now known, only one of the external manifestations of the hidden trouble. For example, a nostril is examined and found to be very thoroughly occluded by swelling of all the anterior tissues, both on the turbinated and septal side; the man of limited experience needs no stronger temptation than this appearance to use snare, knife, cautery or acid. But there are many conditions behind such anterior obstruction which could easily be the cause of it, such as a foreign body, a nasal polyp, an enlarged middle turbinated bone, a septal deviation crowded against the opposite side, a catarrhal or suppurative inflammation of either the antral or ethmoidal cavities or of both, a hidden ulceration, a new growth, posterior hypertrophies, postnasal lymphoid enlargements, a local manifestation of a general hyperemia or edema, a localized exhibition of a general vasomotor derangement, not to mention numerous other abnormalities. I beg you to believe that the presence alone of swollen nasal tissue is not sufficient evidence to arrive at the true character and location of nasal disease.

The rhinologist has, we believe, arrived at the point where he is able to determine which one of many irritating factors is the most important cause of the disease, or, recognizing the presence of several disordered conditions, can give to each its proper value, and determine their relations to each other. Surgical work is now constantly performed in the nasal chambers, and when skilfully done should always result to the benefit of the patient. It is due to the rhinologist to explain one or two points which often seem to be forgotten; and one is that such forms of nasal treatment as the application of the galvanocautery and of acid to the hypertrophied tissue are not as troublesome to the patient as the old methods of treatment, when strong solutions of silver, copper, or zinc were sprayed into the nostrils. The coryzas produced by these solutions were most distressing, and very frequently produced acute inflammation of the ears, pharynx, larynx, and bronchial tubes. The destruction and removal of hypertrophies and diseased tissue when properly performed and when the wound is properly protected do not cause enough disturbance to prevent a person from pursuing his usual business.

Much of the bad reputation which formerly clung to nasal operators and operations was due to the distressing constitutional disturbances due to septic absorption which often followed surgical work in the nose. We are able now pretty thoroughly to guard against such infection, so that we do not now as formerly, see sensational reports of cases in the daily press in which a person nearly died from a supposed simple nasal operation. The reputation of nasal surgery has been greatly improved by the greater cleanliness obtained before operation through the use of some one of the formaldehyde preparations, both to disinfect the mucous surfaces and to render the instruments aseptic, and by the protection of the wound with an efficient germicide. And we must not forget to say also that now that the etiology of nasal disease is better understood, operations are less frequent and a smaller amount of tissue is sacrificed. Again, nasal surgery has lately become more conservative because it is but

recently that rhinologists have fully appreciated the intimate relation between a number of general constitutional diseases and certain pathological conditions in the nose and throat. It was found that these conditions did not yield to the most approved medical and surgical measures, and it was appreciated at length that they were manifestations of perhaps gastric, intestinal or hepatic disease or of gout, rheumatism, eczema, or some other constitutional disorder. And, further, it was satisfactorily noted that with proper constitutional treatment of these ailments the nasal swellings disappeared without surgical removal. Aside from the history of the case it is now usual to make the diagnosis of gouty and rheumatic congestion and swelling in the nose and throat by their general character and color.

We should feel that this paper furnished sufficient reason for its presentation to you, if it stated but this one proposition, namely: That there is no more powerful etiological factor in the production of nasal and pharyngeal congestion and hypertrophy and, hence, nasal obstruction than the continual overuse of alcohol and tobacco. The over-zealous specialist, in days gone by, destroyed soft and bony tissues in the nasal passages before he had insisted that his patient should diminish the daily quantity of stimulants and tobacco. But any one who has struggled to cure by local applications the actively congested pharynx of an habitual smoker and drinker appreciates how powerless his efforts have been until a reform in living has been inaugurated. If a serious attempt is made to control such congestion of the nose and throat by surgical measures, a destruction of the entire mucous lining and a consequent traumatic, dry or atrophic condition will be the result. The physician should decline to promise benefit to this class of patients unless they show willingness to cease to abuse their mucous membranes.

An important modification in the surgical treatment of nasal disease was slowly inaugurated when at length it became apparent that the wholesale destruction of the anterior turbinated tissues occasioned what may well be called "traumatic dry rhinitis." A general dryness of the mucous membrane of the upper respiratory tract naturally followed the impairment of the physiological function of the nasal tissues produced by careless operation. I am sure that all specialists have seen most annoying dry conditions of the pharynx and larynx occasioned by ill-advised destruction of nasal tissue. I have in mind as instances of this two singers who are always obliged to contend with this unfortunate dryness of their vocal organs caused by too great destruction of nasal mucous membrane. It was ascertained, too, that the real location of trouble which caused such catarrhal symptoms as hypersecretion and nasal obstruction was not so often situated in the turbinated side of the nose as in the bony or cartilaginous septum. During recent years, intelligent surgical work has been directed to the correction of septal deviations, hypertrophies and spurs.

There was a time, also, when obstructive swellings, situated at the posterior ends of the inferior and middle turbinated bodies, received far more attention than at present. It required considerable skill to transfix a posterior hypertrophy with a long needle, which was considered the necessary procedure to keep the loop of the snare in position over the swelling. This operative measure, even in the most skilful hands, was effected at the cost of a great amount of discomfort to the patient and frequently of considerable hemorrhage. Bleeding in this location was not easy to control, and the necessity of plugging the nostrils added to the general discomfort, and converted what the patient had expected to be an easily accomplished nasal operation into a very annoying one. We rarely hear now of the application of the cold snare to this locality. I think it is the opinion of most rhinologists that swellings at the posterior ends of the turbinated bodies, whether they are composed of dilated blood-vessels or of organized connective tissue, are in both instances secondary and dependent upon anterior nasal obstructions, and are disposed to rapidly disappear when the septal abnormalities have been removed. I have witnessed many times the total disappearance of what seemed to be well organized posterior hypertrophies, whitish-grey in color, and fibrous to the touch, within a week after the anterior nasal openings had been made sufficiently patent, and a proper amount of nasal respiratory pressure had been applied to these posterior growths. When, however, they are persistent, they can be reached by means of cocaine, a self-retaining palate hook, and the application of some one of the chemical caustics, and reduction can be accomplished without bleeding and with little discomfort.

It is easy to recall the days before such a disease as suppurative ethmoiditis was known, and when such a characteristic symptom as a unilateral discharge of pus was hardly sufficient to impress on the mind of the observer the fact that such a nasal discharge could not be evidence of a simple nasal catarrh. Redness and swelling were present and these were deemed sufficient to establish the existence of a catarrhal process. Again, unwisely, agents were employed to destroy tissues which were congested because of the deep-seated ethmoidal trouble and because of the pus, which, coming from the ethmoidal cells, irritated everything with which it came in contact. We may say, also, that frequently the same surgical mistake was made in the treatment of suppurative inflammation of the other sinuses. To-day the diagnosis of sinus disease is accurately made, and the surgical measures for treatment intelligently applied.

Only a word in regard to that large class of disorders which are placed under the heading of either atrophic or dry rhinitis. There it but little opportunity for the destruction of nasal tissue here, no matter how anxious the physician may be to operate, but in the old days some excuse

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for either burning an atrophic surface with the electric cautery or removing a portion or the whole of the middle turbinated bone with the cold snare seemed frequently to have been at hand. To-day conservative surgery only permits the removal of as much of the middle turbinated as is necessary to prevent its contact with the septum and to secure proper nasal drainage.

We cannot close this paper without referring to the very greatly improved methods of removing post-nasal adenoids. This condition does not exist at present more frequently than formerly, but its presence is now readily discovered. Children formerly having these enlargements in the nasopharynx which completely blocked the posterior nasal orifices were supposed to be affected with nasal catarrh. Instead of destroying nasal tissue, the post-nasal space is now cleared of all obstruction.

It would require too much of your time, even if it were desirable, to briefly describe the surgical methods which are now applied to the many interesting pathologic nasal conditions. We can only say that the results of surgical treatment in the field of rhinology are vast more satisfactory than they were ten years ago. Earnest workers in the pathology of this department of medical science have simplified the clinical phenomena of many nasal disorders which but a short time ago were not understood, and this increased knowledge, together with a clearer understanding of the etiology of nasal affections, has furnished to the operator great incentive for a most desirable conservatism.

STATISTICS OF ONE HUNDRED CASES OF CANCER OF THE BREAST AND THE RESULTS OF OPERATION.[1]

BY CLARENCE A. McWILLIAMS, M.D.,
OF NEW YORK.

THE frequency of this disease warrants most careful attention and study, and the early recognition and diagnosis of the condition present are all the more important in the light of the fact that eighty per cent. (according to Billroth, eighty-five per cent.) of all neoplasms of the breast are carcinomatous, and that a cure can be hoped for only when the operation is performed in its incipiency. In the following table an attempt has been made to collect the principal points in the histories of the cases of cancer of the breast occurring in the Presbyterian Hospital, New York, from January, 1889, to April, 1899. One hundred cases have thus been tabulated, and the following points elicited:

Etiology.—Marriage, child-bearing, nursing or not, and disorders of menstruation have not been proved to have exerted a causative influence. The disease occurs in all social conditions, and persons in perfect health are attacked as often, if not oftener, than those in poor health. In our statistics only two cases had any hereditary taint. None of our cases developed in pregnancy or lactation, and it is an old saying that a tumor which makes its appearance during either of these periods is almost certainly not cancer. An antecedent suppurative mastitis was present in only three cases.

Trauma.—The significance of an antecedent trauma is still under considerable dispute. The situation of the breasts renders them exposed to various forms of injuries, and almost every woman when asked is able to think of numerous times when she has received injuries of greater or less degree to one or both breasts. In our list there is a record on this point in 65 of the patients, of which number 29, or 44.6 per cent., gave the history of a distinct antecedent trauma.

Marriage has been said by some to have a direct influence upon primary cancer of the breast, as high as eighty per cent. being given as occurring among married women. Seventy-four of the patients were married, or 74 per cent.

Childbirth.—Forty-eight patients present facts bearing upon this point. Of this number 32, or 66.6 per cent., had borne children, the average number of children to each patient being five. Accurate details as to nursing can unfortunately not be given, as the histories are very deficient on this point.

Symptoms.—Unfortunately, for the good of womankind, there are no subjective symptoms in the incipiency of cancer of the breast, and the first symptom, in the vast majority of the cases, is the accidental discovery of a hard, not sensitive, painless tumor in the breast, and the absence of pain disarms the patient's suspicions as to its malignancy; consequently, the family physician is not consulted. Pain, as a rule, is not at all pronounced till the surface of the tumor has ulcerated, or till enlargement of the axillary glands has occurred, which press upon the branches of the brachial plexus and cause neuralgic pains down the arm. There may be, however, while the tumor is yet small, a sense of discomfort in the breast, amounting at times, particularly during the menses, to a dull ache. Out of 96 cases, 54, or 56.2 per cent., had some local discomfort or ache prior to operation. It is a remarkable fact that cancers of the breast may attain a large size without the slightest twinge of pain. This may be accounted for by the fact that the advancing, invading cancerous tissue paralyzes the nerve-filaments with which it comes in contact. In respect to pain cancer is somewhat distinguished from benign tumors of the breast, the most frequent of which results from chronic mastitis, which is prone to be a painful process.

Retracted nipple depends on the position of the growth, which will not affect the nipple if it be situated on the periphery of the gland. Retraction of the nipple is caused by the pulling in toward the growth of all the tissues in its neighborhood. Of 73 of the cases about which there is information in this regard, 33, or 45.2 per cent., had retraction of the nipple.

Situation.—In 51 of the cases the right breast

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was involved, and in 49 the left. Right breast, the inner quadrant was involved in 21 cases; outer quadrant in 9 cases; left breast, inner quadrant in 10 cases; outer quadrant in 19 cases. In the remainder of the cases the tumor was near the center of the gland. In no case were both breasts primarily involved at once.

Axillary Lymphatic Gland Enlargement.—Out of 98 cases, 48, or 48.9 per cent., had the lymphatic glands in the axilla palpably enlarged. It is imperative in all cases of mammary cancer to remove all the lymph-glands in the axilla, even although they may not be palpably enlarged when the axilla is opened; for even in this case microscopical examination often reveals a cancerous invasion of the glands. This is clearly shown in our table, in which the axillary glands of 75 cases, after their removal, were examined microscopically. Out of this number the axillary glands in fifty-nine of the cases, or 78.6 per cent., showed distinct cancerous infection. In Case 13 the axillary glands were both cancerous and tuberculous. There seems to be no rule as to how long a time elapses after the tumor has appeared in the breast before the glands become involved. In some cases it is apparently a simultaneous process, while in others a considerable time passes before changes in the axillary glands are appreciated. Hence, the absolute necessity for as early an operation as possible after the appearance of the tumor. Naturally, the question of prognosis depends largely on whether the axillary glands are invaded or not. Should we not go still farther in our operation and remove the supraclavicular glands? Halsted of Baltimore urgently insists upon this. He excises both the axillary and supraclavicular glands in all his cases, and says the additional time occupied in removing these glands adds nothing to the mortality of the operation. He has cleaned out the supraclavicular fossa in 67 cases and cancer was found in the tissues removed 23 times, or in 34.3 per cent.

Cachexia.—This was not a very prominent symptom in our cases and is not apt to develop early. Fourteen cases only showed any cachexia, and these to only so slight a degree as not to contraindicate operation.

Age.—The average age was forty-nine years, six months, and twenty-six days, distributed as follows:

Between	25	and	30	years....	1 case.
"	30	"	35	"	9 cases.
"	35	"	40	years....	9 "
"	40	"	45	"	18 "
"	45	"	50	"	12 "
"	50	"	55	"	10 "
"	55	"	60	"	16 "
"	60	"	65	"	15 "
"	65	"	70	"	5 "
"	70	"	75	"	3 "

The youngest patient was Case 38, who was twenty-nine years of age; and the oldest was Case 1, who was seventy-two years of age.

Operation.—The incisions were made so as not only to remove the infected skin overlying the tumor, but to get so far into healthy skin as to endeavor to avoid any possibility of cancerous infection. The necessity for this is evident when we consider that recurrence most often takes place in the skin around the scar or in the scar itself, and in observing these cases I am led to believe that not enough skin has been habitually removed. The desire to approximate the skin edges should not be allowed to interfere with the liberal excision of skin, as this is of very minor importance when compared to the necessity for a total extirpation of the growth. The dissection is then begun in the axilla and the incision carried down to the pectoralis major tendon, under which, when exposed, the finger is passed and the tendon divided near its insertion upon the finger. The axilla is then laid open by dividing the fascia beneath the great pectoral, and the axillary vein is clearly identified, the situation of which should never be lost sight of as it is the guide to the whole space. The pectoralis minor muscle is now exposed and its tendon divided and reflected back toward the chest with the entire mass. The removal of the pectoralis minor gives much easier access to the very apex of the axilla, and hence greater certainty of removing infected glands, and as the removal of this muscle makes practically no difference in the function of the arm afterward, it should always be removed. The axillary contents, consisting of fat and glands, are dissected back from the apex of the axilla toward the breast. This is a better method of procedure than to proceed from breast to axilla in the dissection, in which case we are more likely to press into the general lymphatic system cancerous cells. The breast, muscles, and axillary contents should all be removed in one piece, since cancerous tissues should never be cut into, nor across, nor removed piecemeal for fear of spreading infection. The subscapular nerves are preserved, if possible, although, if embedded in a mass of enlarged glands, they are removed. The whole mass is then cut away from the chest. This operation seems to be a mutilating one, but the after-results are surprising. One would expect considerable disability after the removal of so much muscle, but such is not the case. The patients may complain for a few months of stiffness and weakness in the arm, but the arm regains its former strength. The functions are maintained by the anterior fibers of the deltoid and the clavicular portion of the pectoralis major. Should the axillary vein be found embedded in a mass of enlarged glands, a portion of it is divided between ligatures. In this case more or less permanent edema of the arm may be expected. A drainage-tube is generally left in the bottom of the wound for thirty-six or forty-eight hours, as there is usually some oozing. The edges of the wound are brought together as closely as possible by sutures throughout the extent of the wound. This is often facilitated by separating the inner skin edge from the chest for two inches back, which

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allows this edge to be drawn farther externally. Any defect between the skin edges is allowed to granulate, or if considerable is grafted at the time of the original operation or afterward. Halsted removes so much skin that he is never practically able to approximate the skin edges; to remedy which he always grafts skin at the time of the original operation. After copious dressing has been applied, the arm is bound to the side by a roller bandage, the forearm and hand being allowed to remain free, which adds much to the comfort of the patient.

Mortality.—It is one of the remarkable facts in surgery that an operation of such apparent magnitude, which is attended by some loss of blood, and which is at times a prolonged one, should be accompanied by such a low death-rate; the few nerves which are cut possibly account for the small amount of shock. In the following 100 cases, 4 deaths, or 4 per cent., only can be directly traced to the effects of the operation. One patient, Case 85, died three days after operation of suppression of urine; two others, Cases 6 and 22, developed post-operative pneumonia, while Case 18 died four hours after operation from shock. Of the 4 other cases which died in the hospital, the fatal result can in no sense be attributed to the operation. Case 61 died at the end of three weeks from presumably secondary cancerous deposits in the mediastinum and lungs, but this occurred a week or more after the patient had been out of bed. Case 60 died on the thirty-first day of nephritis and some secondary cerebral lesion. Case 63, one of the oldest of the series, died at the end of two months of senile changes. Case 30 died of secondary cancer of brain. This gives an operative mortality of 4 per cent.

Death from sepsis has not occurred. The low mortality-rate leads us to undertake the operation even in cases where we cannot hope to thoroughly eradicate the disease, for the operation will ameliorate the patient's condition and will prolong life. No death is more trying for the patient, and the patent's friends than that caused by an ulcerated, sloughing cancer of the breast, and metastasis of an internal organ is infinitely to be preferred as a cause of death. Mortality statistics of others are: Bull, 3.6 per cent.; Curtis, 6 per cent.; Weir and Dennis, no deaths in a reported series of 125 and 33 cases respectively.

The average length of stay of each patient in the hospital was twenty days. The patients are encouraged to sit up in bed as soon as possible after the operation, generally about the fourth day, and to get out of bed about the seventh day, sometimes even as early as the fifth day. Convalescence is consequently very rapid. Movement is allowed at elbow on the second day after operation and from the shoulder after the tenth day; massage at the end of a week is given to the muscles of arm and shoulder.

Recurrence.—We now come to the most interesting part of our report, and we shall endeavor to ascertain how much good has been done these patients, and what can be said as to prognosis after operation. To accomplish this an endeavor has been made to get news of each patient in the list; to see personally the ones who are alive, and to get accurate information, when possible, from the physician in attendance, regarding the cause of death in the fatal cases. Of the 92 patients who went out of the hospital, statistics have thus been obtained of 66. No trace has been found of 26, the reason for which can easily be appreciated when we consider the difficulties in the way of tracing patients belonging to the class which we find in the average hospital ward. These statistics were all obtained on or about December 1, 1899.

Number of Cases free from Recurrence at Yearly Periods from Operation:

		Per cent.
At end of 1 year	36 cases out of 61, or	59.1
" " 2 years	19 " " 52, "	36.6
" " 3 "	17 " " 50, "	34.0
" " 4 "	13 " " 46, "	28.2
" " 5 "	9 " " 43, "	20.9
" " 9 "	3 " " 37, "	8.1
" " 10 "	1 " " 35, "	2.8

If we adopt three years of immunity from recurrence as the limit of time when we can say a patient is cured, 17, or 34 per cent., of the patients were cured.

Halsted of Baltimore published, in 1898, his statistics on cancer of the breast, giving 41 per cent. of cures after three years. Other results of cures after three years are as follows, all published in 1894:

	Per cent.
Bergmann	30.2
Billroth	4.7
Gusselbauer	16.7
König	22.5
Volkmann	14.0
Bull	26.6
Curtis	20.7
Weir	20.0
Dennis	25.0

Table of Recurrence.

Recurrence has taken place within 3 months in 4 cases.

Between	3	and	6	months in	7 cases.
"	6	"	9	" "	3 "
"	9	"	12	" "	7 "
"	12	"	18	" "	6 "
At	1 year	"	10	" "	1 case.
"	2 years	"	6	" "	1 "
"	4 "	"	2	" "	1 "

Four patients died of recurrent cancer, in whom the time of recurrence was not ascertainable:

One at	2 years..... Case 73
"	2 months..... Case 68
"	3 " ..... Case 26
"	6 " ..... Case 42

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It is, therefore, clear from these tables that all the recurrences took place within two years of the operation, except in two patients, one of whom (Case 67) died four years and three months after operation of cancer of the lung. Shall we call this a recurrence after four years, or is it not truly a case of re-infection, in which the original disease had no influence? The second patient (Case 53) died two years and six months after operation from cancer of the brain. Twenty-one cases recurred in the first year, and twenty-eight within two years. There are some interesting statistics concerning the location of the recurrences:

Recurrence.

Local,	in scar or skin about scar,	in 15	cases.
"	" lung	" 6	"
"	" opposite breast	" 3	"
"	" liver	" 2	"
"	" brain	" 2	"
"	" supraclavicular glands	" 2	"
"	" stomach	" 1	case.
"	" pleura	" 1	"
"	locality unknown	" 2	cases.

The clinical history subsequent to operation of several of the cases is interesting.

Case 17 had a small tumor of breast, of five months' duration, removed July 1, 1897, by Dr. McCosh, which, after careful pathological examination, was found to be chronic inflammation. Eleven months afterward another tumor appeared in the same breast, and this time a radical operation was performed, the breast, pectoralis major, and axillary contents being removed. Pathological examination of the breast tumor revealed "Chronic inflammation, with much proliferation of cells," while the axillary glands showed carcinomatous infection. Twelve months later, metastasis took place in liver. The patient is still alive, but very ill. How are we to explain this case? How much influence had the chronic mammary inflammation to do with the axillary cancer?

Case 37 had one breast removed by a radical operation for cancer, June 23, 1897. Without any local recurrence, a tumor appeared in the opposite breast April 1, 1898. Radical operation was performed in April, 1898, and the tumor and axillary glands pronounced to be cancerous. No recurrence was discoverable December 1, 1899, two years and five months after the first operation, and one year and eight months after the second. The patient has perfect use of both arms and works for her living.

Case 53 was exceedingly interesting. For notes on this case I am indebted to Dr. Stillwell. The breast was removed radically June 23, 1896. The patient was well for two years and six months, when, in December, 1898, she began to complain of difficulty in expressing herself, and of dulness of mind. Three months later, March 9, 1899, she developed some loss of muscular power in the right arm, difficulty in concentrating the mind, and slowness of speech. Was also emotional. Had no headaches. March 17th, right arm showed marked loss of muscular power. Pulse absolutely normal; also kidneys and lungs. Sensation normal in right arm. Cerebration was sluggish; did not confuse words. No headache, no vomiting. March 28th had a severe chill, and during day had three fainting attacks, in which pupils were contracted but equal, was semi-conscious, and total paralysis of right arm and leg developed. March 29th, after use of powerful cathartics, intelligence cleared up, paralysis became much better, *i. e.*, had slight movements in arm and leg (alleviation of symptoms possibly being due to the relief of cerebral edema), March 30th, greatly improved, pupils normal, could read intelligently, and talked well. April 2d, pulse was 68, no fever. Mind sluggish and drowsy. Speaks correctly when questioned, but in monosyllables. April 3d, slight dysphagia developed, moves leg fairly well, but arm not at all. Seems weaker, no vomiting, no headache. April 4th, mentally clear. Can move arm slightly. April 5th, moves arm slightly, clear mentally up to end, no vomiting nor headache at any time. Pulse, 120, action weak and heart bad; breathing became labored, and she died suddenly April 5th. Autopsy showed that the two vertebral arteries were not obliterated, only slight general atheroma. Left anterior and middle lobe centrally softened, so that section was impossible; and under the convolutions and in center of this soft mass, was a hard, sharply defined mass, the size of a small egg. Microscopical examination showed this to be medullary cancer.

Case 38 died eighteen months after operation of metastatic cancer of the brain. She was well for nine months, when she began to complain of headaches which were intractable. Four months later the headaches became agonizing, particularly at night, and rendered sleep impossible. Left-sided facial paralysis developed two months before death, and paralysis of speech two weeks before death.

Death has taken place in the recurrent cases on an average one year, two months and twenty days after the operation. The average length of time after recurrence set in till death took place has been five months.

In concluding the subject of recurrence and considering the facts before us, we are, unfortunately, obliged to confess that we can never promise to absolutely cure a patient with cancer of the breast by operation. If the case is seen while the tumor is yet small and there is no axillary gland involvement, we can tell the patient's friends that a cure is very possible, but not by any means certain. We know we can cure a certain number; but our knowledge is not as yet deep enough to select from a given number of cases those which will not have a recurrence, and those which will recur. Thirty-four per cent. of these cases, we have seen, were cured (*i. e.*, passed the three-year limit without recurrence). This percentage is not absolute, however, because not all the patients operated on over three

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years ago could be found, consequently we know not whether this percentage would be increased or diminished had we been able to trace them all. The fact remains, however, that at the end of three years, 17 patients were perfectly well, which is a very excellent showing compared with earlier results, and well calculated to convince any who may think the operation of doubtful utility. With recurrence taking place in the scar or its neighborhood in 15 of the cases, it would seem that it has not been the custom to remove enough skin with the breast. Have we sufficient warrant to subject the patients to the additional ordeal of removing the supraclavicular glands, in view of the fact that in only two cases was recurrence primarily in these glands? If the process has gone on so far as to infect these glands, is not a general infection very probable, and will their extirpation be more likely to effect a cure?

These considerations are worthy of careful attention. The tendency is to extend the operation. Where shall the line be drawn?

In conclusion, I venture to assert that many of the profession feel that this is an operation which is merely palliative. These statistics prove that such a feeling is a false one, and calculated to do immense harm. It is the duty of the profession to impress upon the laity the idea that the smallest nodule in the breast may become a source of the greatest danger to life, and that the only hope of a cure lies in early and radical operation. A summary of the points elicited in the preceding article, as well as a table of the cases follows:

Summary.

Trauma present in 44.6 per cent. of the cases.
Married, 74 per cent. of the cases.
Children born to 66.6 per cent. of the cases.
Average number of children to each, 5.
Pain present in 56.2 per cent. of the cases.
Nipple retracted in 45.2 per cent. of the cases.
Right breast involved in 51 cases.
Left breast involved in 49 cases.
Axillary glands palpable in 48.9 per cent. of the cases.
Axillary glands found cancerous by microscope, 78.6 per cent of the cases.
Average age was 49 years, 6 months, 26 days.
Mortality of operation was 4 per cent.
Average length of time in hospital, 20 days.
Prolongation of life for one year, 59 per cent.
Prolongation of life for two years, 36 per cent.
Cured (no recurrence at end of three years), 34 per cent.
Recurrence took place in one year in 21 cases.
Recurrence took place in two years in 28 cases.
Recurrence took place locally in 15 cases.
Recurrence took place in lung in 6 cases.
Average length of time in recurrent cases from operation to death, 1 year, 2 months, 20 days.
Average length of time from period of recurrence to death, 5 months.

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CANCER OCCURRING IN ACID PARTS OF THE BODY.

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THE relative frequency of primary cancer occurring in the stomach as compared with cancer of the bowel, and of cancer of certain small portions of the bowel as compared with the greatest part of the small intestine, must often have appealed to the student of digestive diseases as possessing a hidden significance. The recent suggestion—it can as yet scarcely be given a more positive term—that cancer is due to a micro-organism analogous to, if not identical with, the yeasts, has led the writer to undertake an investigation of statistics to learn if the reaction of different parts of the body has any determining influence on the location of cancer. All the juices of the body are ordinarily alkaline in reaction, excepting four, *viz.*, the perspiration, urine, gastric juice and cervicovaginal mucus. It may be said in anticipation that whether the essential cause of cancer be a yeast, some other kind of germ, or merely an excited epithelial vitality, statistics show that the great majority of cancers develop in acid media. Whether the reaction is the determining factor, whether, as is certainly often the case, acid parts of the body happen to be parts in which mechanical traumatisms are frequent, or whether the localization is due to some unsuggested cause, the writer does not pretend to state. In fact, he prefers not to be considered an advocate of any theory, so long as the etiology of cancer remains obscure. It is, of course, understood that this paper deals with primary cancers, and that nothing is suggested to confirm or reject the commonly accepted ideas as to metastasis.

Especially with reference to the digestive tract, it is important to bear in mind certain facts. While all the secretions of the alimentary canal and its tributary glands (the salivary glands, liver and pancreas) are alkaline in reaction, except that of the intramural gastric glands, organic fermentation plays a very important part in determining acid reaction in certain places. Food particles in the mouth, especially along the dental margins and in the tonsillar crypts, are prone to ferment, producing various organic acids to which was, indeed, ascribed the production of dental caries until the development of bacteriology as a fairly exact science within the last fifteen or twenty years. The corners of the mouth, the gums, the portions of the tongue not readily cleansed by its own movements and especially the parts near the circumvallate papillæ, the tonsils, are preëminently the parts selected by cancer. The esophagus is subject to little interference from without, except at meal-times, and is bathed in a tenacious, alkaline mucus for more than nine-tenths of the time, except at its inferior extremity, where it is exposed to acid regurgitation from the stomach for quite a time

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after each meal. It is at this point that most esophageal cancers are located. (Pepper's System, or, in fact, any authority.) The duodenum is, for several hours after each meal, subject to periodic waves of acid chyme. The small intestine below the entry of the pancreatic and hepatic secretions is uniformly alkaline, except for fermentation in the central mass of chyle. There is free secretion, exceeding the amount lost by absorption under ordinary conditions; the absorption is by means of projecting villi and all absorbable products are fresh from the activity of alkaline secretions. Thus, the mucous membrane is protected by an abundant current of alkaline secretion from whatever irritating acid masses may be present in the lumen of the bowel. In the large intestine, or even a little before the ileocecal valve is reached, the conditions change. Bacterial fermentation becomes more marked, the amount of secretion from the intestinal wall is absolutely less than in the small intestine and the current is one of absorption toward the mucous membrane, which must, therefore, often be subjected to an acid irritation.

Cancer statistics are by no means satisfactory. For instance, the first question that naturally presents itself is as to the classification and enumeration of cancers according to the blastodermic layer from which they are produced. It is, of course, obvious that, except for an inclusion of stray cells in development and that the cells of organs derived directly from the so-called genito-urinary cell-mass always retain a vestige of power to develop into any kind of tissue, cancer can occur primarily only in epiblastic and hypoblastic epithelium. Yet there are no statistics of any magnitude bearing on this question, and it is not even easy to obtain positive general statements regarding the blastodermic origin of different cancers, or an explanation of the characteristics of cancers of different organs, with their cellular genealogy in view.

Tyson states that barely five per cent. of all intestinal cancers occur in the small intestine, yet this part of the bowel has eighty per cent. of the total length and probably 70 per cent. of the total epithelium. Fifteen per cent. occur in the cecum and colon. All detailed reports of small series agree that the great majority of this group are located within a few inches of the ileocecal valve. Eighty per cent. occur in the rectum, which comprises not more than three per cent. of the entire bowel. This part of the intestinal tract is not subjected to the constant presence of contents and bears the brunt of the chemical irritation only at times.

Maydl collected at the Vienna Pathologic Institute 41,838 necropsy reports, including 3,583 of cancer. Only 343 of these affected the intestine, although the majority of the total hypoblastic epithelium is found in its wall. Of the 343 intestinal cancers, 162 occurred in the rectum, 164 in the colon, which is more than four times as long, and 7 in the duodenum. Not one is charged to the jejunum and only 10 to the ileum. Although their exact location is not given, it is safe to assume that most of them, as in similar series, were well down toward the ileocecal valve. In fact, Alois Pick, alluding to these very statistics, although not in detail, makes this statement. Thus, of the 343 intestinal cancers, only a minority of the last ten occurred in distinctively alkaline parts of the bowel, although the latter comprise a length of about twenty feet, as contrasted with about two feet of the points of election for the majority of cancers.

Primary cancer of the spleen (inclusion growths), pancreas, gall-bladder and liver, is comparatively rare, although all except the spleen represent considerable aggregations of hypoblastic epithelium. Fully three-fourths of all cases of hepatic cancer, according to Tyson, are secondary to growths in the stomach, and Welch is in practical agreement, putting the fraction at two-thirds. Musser, from a study of 100 cases of cancer of the biliary ducts and bladder, says that primary growths are rare and usually due to previous irritation by gall-stones. These, in addition to their mechanical irritation, are now known to be connected with bacterial invasion, especially of the colon bacillus, which produces hydrosulphuric acid from nitrogenous pabulum.

If we consult any large series of cancer cases, barring some with peculiar standards of selection, we find that the plurality of cancers is possessed either by the stomach or the uterus, both acid organs and of relatively small size. Welch's average of 31,482 cases from various European and American sources was 21.4 per cent. for the stomach, 29.5 per cent. for the uterus. The latter really represents about double the apparent tendency, being limited to females. It is only fair, however, to consider the fact that cancer is rare in nulliparæ and that traumatism must have an important bearing. Still, it is a question whether the traumatism is a direct cause or whether laceration of the cervix acts by exposing the cervical epithelium to chemical irritation from the vagina.

In considering any series of statistics regarding epithelioma alone, the acid theory receives confirmation which is largely specious, since squamous epithelium occurs to a slight extent inside of the skin. This is bathed in acid perspiration and to a greater or less degree, in fermenting sebaceous matter. Satterthwaite's series of 94 cases of epithelioma ("Reference Hand-Book of the Medical Sciences") assigns twenty-five per cent. to the lip, six per cent. to the tongue, three per cent. to the larynx, two per cent. each to the mouth and palate. Löwenthal published in 1895 a series of 800 cases of apparently traumatic tumors, including 358 cancers of which 152 occurred in the breast, where special reasons for such growths occur. I may digress to state the belief that the history of gross traumatism of the breast has been given undue prominence. Aside from physiologic stimuli, occurring not merely with lactation but with every menstruation, the breast is frequently the seat of mild traumatisms,

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not only from nursing but in caresses and by the pressure of the corset, etc. Just half of the remaining 206 cancers occurred in the face, but the avowed purpose of the collection, the tabulation of traumatic growths, would inevitably include a disproportionate number of face cancers. In this connection, it may be remarked that few cancers appear to be due to shaving. Men show no marked predisposition to facial epithelioma. It occurs about as often in those men who wear beards as in those who shave, and it usually occurs above the line of the beard. But it would be too far-fetched to explain this on the ground of a liberal application of alkaline lather to the area of shaving. Löwenthal's other figures are as follows: Jaw, 16 per cent.; neck, 1 per cent.; back, 2 per cent.; abdomen, 8 per cent.; upper extremities, 18 per cent.; lower extremities, 26 per cent.; urinary organs, 17 per cent.; pelvis and lumbar region, 0 per cent. Thus, the limbs are more liable to cancer than the trunk. In proportion to their size, there is no significant difference between the arms and legs. The urinary organs certainly show a proportionately great liability, perhaps due to the fermentation of urine, smegma, etc., and to relatively free perspiration. The axillæ and umbilicus, although subject to free perspiration and fermentation of sebaceous matter, are quite free from cancer.

Of 180 scirrhous cancers collected by Satterthwaite, 130 involved the breast, including the nipple. The fact that cancers, as well as pyogenic affections of the breast, often begin at the nipple may be taken to show a predisposition on account of acid fermentation, which is certainly frequent at this point. But we must not overlook the fact that the mammary glands, although epiblastic, resemble, both histologically and in the character of their neoplasms, hypoblastic structures, and that no other epiblastic tissues are fairly comparable with them. Of 50 other cases of scirrhus, 35 occurred in acid parts; stomach 18 (with metastasis to the liver in 4), uterus 8, rectum 4, bladder 2, colon, duodenum and ileocecal valve, 1 each; while distinctly alkaline parts were affected in only three cases; pancreas 2, gall-bladder 1; and twelve cases occurred in parts of doubtful reaction; or the location of the tumor is not given exactly enough to warrant a definite conclusion; neck 4, axillary glands, back, foot, nose and parotid region, superior maxilla, cheek, esophagus, each 1. If we assume that the cancer of all of the skin-covered regions of this list of 12, began in the skin epithelium, 10 more can be claimed as occurring in acid parts.

Satterthwaite's series include only 10 cases of medullary carcinoma and this series neither supports nor opposes the acid theory, unless we assume that important glands like the liver and spleen are in a state of acidity during functionating periods—for which there is good physiologic authority as regards the spleen, at least. If, in addition, we assume that the mammary cancers originated at the nipple, every one of this series of 10 may be assigned to acid parts. Only 2, however, occurred in parts having a practically permanent acidity, the kidney and vagina.

The United States census of 1890 reports 18,536 deaths from cancer, a little more than two per cent. of the total death-rate. Of these, 5793 are unspecified in location or are referred in a general way to the abdomen. Of the 12,743 specified cancers the location was as follows: Stomach, 4307; uterus, 3510; bladder, 124; genitals, 57; rectum, 414; head, face and neck, 1206; extremities, 169; making a total of 8787 occurring in distinctly acid parts. Breast, 1714; liver, 1293; mouth, tongue and throat, 642; a total of 3649 which occurred in parts of doubtful reaction. Brain, 51; eye, 72; larynx, 46; lungs, 79; ovaries, 49; testes, 10; a total of 307 which occurred in alkaline parts.

Cancers of the pancreas and small intestine were lumped together in an item of only 923 abdominal cancers, obviously including the kidneys and extensive growths from the stomach as well as the lower bowel. It is also incredible that 10 per cent. of all cancers originated in the liver. Fully 6 per cent. of these should be charged to the stomach, according to Welch's opinion. But without any of these allowances, it is significant that about 70 per cent. of all cancers occurred in distinctly acid parts, only about 3 per cent. occurring in distinctly alkaline parts.

William's statistics, based on reports of English hospitals and limited to primary neoplasms, are as follows:

For males, total 4597, 15.9 per cent. being unspecified or undetermined. In acid parts there were: Tongue and mouth, 15.9; skin, 16.4; external genitals, 6.1; rectum, 5; stomach, 4.8, and prostate, .2, making a total of 48.4. Those of doubtful origin were: Lips, 7.3; maxillæ, 3.9; mammæ, .5, and esophagus, 3.1, making a total of 14.8. Those occurring in alkaline localities were: Connective tissue, 9.4; other bones, 6.1; brain, 3.4, and testes, 2, making a total of 20.9.

For females, total 9227, 5.8 per cent. being unspecified or undetermined. In acid parts there were: Uterus, 28.7; skin, 5.9; external genitals, 4.6; rectum, 2.5; tongue and mouth, 1.6, and stomach, 1.4, making a total of 44.7. Those of doubtful origin were: Mammæ, 26, and maxillæ, 2.4, making a total of 28.4. While those occurring in alkaline localities were: Ovaries, 8.7; connective tissue, 6.9; bones (except maxillæ), 2.9; brain, 1.4, and liver, 1.2, making a total of 21.1.

The discrepancy between these and the preceding statistics is easily accounted for by the nature of the series. Williams deals with surgical cases and his statistics were published before operations for radical cure of neoplasms of the stomach, liver, etc., were at all frequent. Thus, instead of tabulating 25 or 30 per cent. of gastric cancers and 2 or 3 per cent. of (primary) liver cancers, he notes a low percentage of each. The fact that he was a general surgeon rather than a gynecologist is shown by the fact that he saw only 28.7 per cent. of uterine cancers among wom-

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en, whereas such cancers amount to as high a percentage of the total population, *i. e.*, to about double Williams's percentage of cancers for women. In fact, what Williams takes as 100 per cent. really represents only about 70 or 80 per cent. of the total cancerous population, or rather of an average representation of it.

It is proper to call attention to the relations of this theory to other more or less accepted views as to etiology. To the microbic theory of cancer, whatever be the exact nature of the germ, the acid theory applies merely with regard to the localization of the growth, and it is certainly in harmony with our knowledge of other infections, notably tuberculosis and diphtheria, to suppose that special characteristics of a tissue influence the development of the disease. The dry, squamous epithelium of the skin shows comparatively little predilection for cancer, nor does one area seem notably more prone to cancer than another of the same size. While the marked liability of the genitals and other muco-cutaneous areas as compared with other parts of the skin might support an argument for the acid theory, it is only fair to suppose that the softness of the epithelium has more to do with this tendency. If we contrast the bladder and rectum, on the one hand, with the mouth, nose and throat, on the other, we have nearly equal areas of infolded epiblast, the latter much more subject to traumatisms, but each group subject to cancer in nearly equal degree. In referring to the stomach as an acid cavity, the idea is based not so much on its normal secretion of HCl as on the liability to organic fermentation. In conclusion, the writer wishes again to emphasize the fact that he is not a partisan of a theory, but that these statistics are presented as a basis for further study.

AFTER-TREATMENT OF TENOTOMY.[1]

By ALEXANDER DUANE, M.D.,
of New York.

After a tenotomy, whether performed for a squint or heterophoria, there are two plans of treatment open to us. We may either bandage the eye operated on and discourage any attempts at using the eyes, at least for binocular vision, until the wound is healed; or we may leave the eye open immediately after the operation and encourage the patient to begin using his eyes at once for all ordinary vision. In the first method we aim to fix the eye in the position left by the operation, except so far as we modify that position by another operation, *e. g.*, by the insertion of sutures, etc.; in the second method we attempt, by utilizing the directive force of the eyes themselves and, if necessary, by suitable exercises, to gradually substitute a more accurate correction for the approximate one produced by the tenotomy.

The *principle* underlying this second plan of treatment, to which I in common with others give the preference, is as follows: If there still remains any tendency to binocular vision, the eyes, even although deviated, will constantly strive to assume their proper relations to each other, so far as they can. Under ordinary circumstances, this effort is nullified, indeed sometimes reversed, by the conditions acting to maintain the deviation. But in the days immediately succeeding a tenotomy, when the tissues are still plastic and the severed tendon still able to shift somewhat its point of attachment to sclera, this tendency to spontaneous restitution is able to assert itself and acts gradually, but automatically, to set the eyes straighter than we left them by our operation. It is our part to give this tendency full play. Accordingly, after detaching the tendon from its insertion and putting it as nearly as we can in the place desired, we allow this automatic action of the eyes at once to begin working, so that it may act to the best advantage and gradually put and keep the tendon in just the proper position. In this way we convert an approximate result into a more precise one; just as the microscopist supplements his coarse adjustment that brings the object incompletely into view by a series of fine adjustments which focus it sharply.

Being thus left open and free to move, the eyes are *practised from the moment of operation in looking*, especially in steady looking at remote objects. Care should be taken that at first they are used mainly for distant vision—certainly for no very fine or continuous near work—and that the patient avoids all sudden, jerky movements of the eyes or head as well as any stooping and straining. Measurements of the amount of heterophoria are made every day, and from these measurements deductions are drawn as to the amount and kind of eye-work that the patient may be permitted to do.

Obviously, the eyes should be placed in the very best conditions for seeing, and all accommodative strain eliminated, *i. e.*, the *refraction* should be corrected as accurately as possible. If the error, whether over-correction or under-correction, left by the operation, is small, the eyes may eliminate it by simply practising in the way above indicated without artificial aid. Whether this is going to be so or not, we can judge from our daily measurements of the heterophoria. If not, that is, if we find that the residual deviation remains stationary or tends to increase, or if it is very large, at the outset, we then try to supplement the automatic action of the eyes by *appropriate exercises.*

Thus suppose that after a tenotomy of the left internus we find an esophoria of 3° or 4° left. This is an amount that our experience in such cases shows us will probably increase by several degrees during the process of healing. If we do not feel justified in extending the effect of our operation by further tenotomy, we will immediately begin exercising the eyes, once or more times daily, according to circumstances, by practising the divergence with prisms, base in, and

[1] Read before the Section on Ophthalmology and Otology, New York Academy of Medicine, March 19, 1900.

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by making the eyes execute strong lateral movements to the left. Similarly, if after a tenotomy of the right externus there remains an exophoria of the smallest amount, an exophoria that we are morally certain will increase, we practise the convergence by the systematic daily use of prisms, base out, and by making the eyes converge upon very near objects; and we further stretch the divided tendon by making the eyes execute lateral rotation movements to the left.

Similar principles of treatment obtain if after an operation we have, instead of an under-correction, as in the examples cited, an *over-correction,* so great that we think it necessary to reduce it. No specific rules can be laid down for such cases. In each, we judge by the progress made from day to day, and, by the results of our measurements from day to day, how far to push our exercises and when to stop them altogether.

Exercises of this sort made with prisms must not be confounded with similar exercises made upon eyes in which the tendons are intact. These are different in principle and, in my experience, considerably different in result. When we undertake to cure an esophoria by exercise with prisms, base in, we simply stimulate the diverging power of the eyes and by this means hope to offset the continuing causes that produce the undue convergence. In this attempt we usually —I think it scarcely too much to say that we invariably—fail. But when after an operation for esophoria we exercise the eye with prisms, base in, we aim, not so much to practise the divergence *per se,* as to pull upon the severed and yielding tendon and get it to attach itself a little nearer the right position. And in this we not infrequently succeed.

So, too, exercise with prisms, base out, undertaken for the cure of an exophoria, simply means exercise of the converging power, enabling the patient better to fight against the continuing causes producing the deviation, but not removing these causes themselves in their entirety. Such treatment is very often disappointing. But when we exercise the eye with prisms, base out, after an operation for exophoria, we then make the eye pull in against a divided tendon, and aim to stretch the latter so as permanently to affect its place of attachment. This is a procedure much more likely to be successful.

The same procedure and the same class of exercises that are of use in supplementing operations for esophoria and exophoria are equally applicable to *vertical deviations.* Indeed, experience has convinced me that the tendency to spontaneous correction after operations on the vertical muscles is even stronger than in operations on the lateral muscles; and the after-treatment is more important as yielding results that are apt to be both more permanent and more satisfactory.

When the amount of post-operative deviation, especially if it is an under-correction, is very large, little is to be expected either from attempts to get the eyes to perform binocular vision spontaneously or from exercises with prisms. It is best, then, *to modify the operation* by any one of the well-known surgical procedures in order to get a closer approximation to the true correction, before proceeding with the exercises. When such an extension of the operation would seem to hamper too much the mobility of the operated eye, it is better to operate on the other eye and secure the desired effect from that. If, however, the original operation is carefully performed and is checked by rigid quantitative tests, made at intervals during it and directly afterward, there should not be in most cases such a large residual error as to require much subsequent operative readjustment.

The *duration* of the treatment will vary much in the individual cases. Perhaps two weeks may be stated as the average time of active treatment with exercises. During the first week the patient is seen and examined every day; during the second week, every day or every other day, according to circumstances; after that at longer intervals, unless there is some special indication for seeing him oftener, such as the presence of a large deviation or the recent performance of a secondary operation. In any event, it is advantageous to keep some sort of supervision over the case for a month or more after the operation. After the first few days, much of the exercising may be entrusted to the patient himself, if intelligent; but even then the progress of the case ought still to be constantly watched, and daily tests made to gauge the results of the treatment.

Of course, the likelihood of success is much enhanced if the patient starts with good binocular vision. Hence, as many have realized, one important element in the treatment consists in training the patient before the operation *to recognize diplopia and to see binocularly* if possible. With care and patience this may often be effected even in apparently unpromising cases. The various well-known expedients for differentiating the double images, and thus enabling the patient to recognize them better, may be used, the only proviso being that they are used repeatedly and systematically. Such expedients are the red glass and particularly the Maddox rod placed over either eye; or a strong convex glass placed before the better eye to reduce the distinctness and change the character of the image formed by it. Prisms that only partially correct the deviation are often useful. Such a prism may make double images, recognizable either because it brings them close together when they were previously too far apart to be perceived, or simply because it gives them a relation different from the one to which the patient is accustomed. This is particularly the case if we employ, one after another, prisms of different strengths. This causes a changing diplopia, which, as experience teaches us, is harder for the patient to ignore than is a diplopia that is constant. We all know how inapt an eye is to ignore the double images produced by a paralysis; the reason evidently being that the diplopia is constantly shifting, so that the patient cannot learn to make allowance for it,

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as he can for one that is always the same. We produce a similar effect with our changing prisms.

This training, which is useful before operation to enable the eyes to recognize double images and seek their fusion, is also and to even a greater degree useful after operation. This is a matter that has been so abundantly worked out by many and competent investigators that it seems scarcely necessary to refer to it, except to say that exercises of this sort are not employed so much as they should be, and are rarely initiated at the time when they would appear to be most serviceable, namely, in the first hours and days after the operation, when we are able to modify to the greatest extent the operative result. At this time our other exercises work to produce binocular fixation; and our likelihood of success will certainly be considerably better if we then secure some measure of binocular vision as well.

There is one other point relative to the preliminary treatment to which I should like to advert. This is the practical utility—likewise recognized by a number of observers—of exercising the patient *before the operation in the use of the eye-muscles* themselves. We practise him, that is, with and without prisms, in making divergent, convergent, and lateral movements, until he acquires as fair a degree of facility as the ocular conditions will allow. This practice will enable him to pursue his post-operative exercises to much better advantage.

To recapitulate, the principles of treatment here advocated are as follows:

First, the patient is *prepared for the operation* by repeated exercise of the eye-muscles and by repeated attempts to secure binocular vision and the recognition of diplopia. This may take but a few days or it may require a week or more.

Second, the operation, however performed, is *checked* all during its performance and immediately afterward by careful tests calculated to show the precise amount of deviation present at each step of it.

Third, *immediately after* the operation the patient is allowed to go about as usual, is encouraged to use his eyes for distant vision, and is urged to practise both eyes together for all ordinary looking. This practice is kept up daily, and daily tests are also made of the amount of deviation. If this is large and is not diminishing satisfactorily, exercises are instituted to stretch the divided tendon, so as to secure its adhesion in a better situation than where it was left by the operation. These exercises are particularly necessary when the operation has left an under-correction.

No bandage is applied, and deep sutures are avoided when possible. I generally instil a sterile salt solution or preferably a weak solution of sublimate, as the latter, it seems to me distinctly promotes the healing of the wound.

It will be observed that I have not mentioned as part of the post-operative exercises the *occlusion* of the better eye and the systematic practising of the amblyopic eye in monocular vision. In fact, I do not think that this procedure should find place until the eyes have first been thoroughly trained in binocular vision or, at least, in binocular fixation. Hence I should prefer to reserve the use of this expedient until a period some considerable time after the operation.

What *objections* are there to the method of treatment here outlined? The first that naturally suggests itself, *viz.*, delay in healing and the risk of exciting inflammation of the wound, is not in my experience valid. These wounds of the conjunctiva and ocular tendons, as is well known, are painless and heal without any inflammatory reaction. As is also known, the parts concerned will stand an extraordinary amount of manipulation without reacting in any way. And certainly the moderate straining and pulling produced by the exercises have never, so far as I have seen, caused any untoward effects.

The danger of *infection* may be urged. But, while conjunctival inflammation or even tenonitis has occurred as a very rare accident after these operations, such an event, as I understand the matter, is ascribable to infection at the time of operation due to contaminated instruments, and not to infection taking place subsequently through the atmosphere. In fact, there appears to be no reason to believe that such accidents are any more frequent with the open method than when an occlusive bandage is employed. At any rate their extreme rarity practically excludes them from consideration, and the added security and permanence of results that accrue from the open method surely more than counterbalance any such remote danger.

A more valid objection is that the patient by sudden movements of the eyes or undue use of them may strain the fibers holding the tendon in place, and produce *an excessive effect.* The likelihood of such an occurrence, however, is more apparent than real. It can practically always be avoided if we take pains to tell the patient just what he can and can not do with the eyes, and insist upon his observing ordinary precautions. If an accident of this kind does happen and if we feel that the over-effect is going to be permanent, we can insert a suture and draw up the retracted tendon. Only, it is to be remembered that such an over-effect if often transitory, and it is well, therefore, to wait a day or two at least before attempting to remedy it with a suture—in the meantime, of course, stopping the exercises or even reversing them.

To conclude: The method here outlined has been employed, either in part or in its entirety, for many years by a number of operators. My own acquaintance with it covers a space of about fifteen years. From that experience I feel sure that this procedure gives greater certainty of results and especially greater stability of results than any other. So persuaded am I of this that I have come to regard the technic of the operation as of subordinate importance. In other words, I believe that we can not hope to effect

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an absolute correction by the operation *per se*, however delicately performed. What we can do by the operation is to set the eyes fairly straight and in a position in which, being left free to move, they themselves will work toward an absolute correction. Hence, I say that, provided it is done with care and discrimination, and is checked by precise measurements made during and after its performance, it makes little difference how we do a tenotomy—but it makes a great deal of difference how we treat the eyes afterward.

INTERESTING CASE OF SYPHILIS: EPITHELIOMA.

BY L. BLAKE BALDWIN, M.D.,
OF CHICAGO.

Case I.—Man, thirty-seven years of age, American, of German parentage; salesman; unmarried. When seen, November 4, 1899, he presented the following conditions: On the vertex were four ulcers, each two cm. or more in diameter. Over the right supraorbital ridge was an ulcer about 1.5 cm. in diamter. Each of these was covered with a crust from 5 to 10 mm. in thickness. Over the left parietal region was the partially healed remains of an ulcer represented by a cavity about 5 mm. in depth. The entire nose as far back as the bony septum was gone, the remaining portion being a crust barely one cm. in thickness. The left side of the soft palate was entirely gone and the right side badly ulcerated. Upon the right arm was an ulcer about 1.5 by 2 cm. in dimension. The right forearm from above the elbow-joint to the wrist upon its extensor surface presented an almost continuous ulcer. The left forearm presented the same condition excepting that the elbow-joint was not involved. Both thighs, on their external surfaces, from the upper third to the knee presented numerous ulcers, none of them less than 2 cm. in diameter. Upon the inner surfaces there were several. The tibial surface of both legs from the knee-joint to the ankle was an almost continuous mass of ulceration. The calf of the left leg was covered with an ulcer which extended from the junction of its upper and middle thirds to near the ankle and which extended transversely nearly one-third of the circumference of the limb. The right great toe had upon its extremity an ulcer which had progressed nearly to the bone. The second toe of the same foot was covered with an ulcer extending from the base to the tip. The discharge from these ulcers was exceedingly profuse and fetid, so that although the patient lived upon the third floor rear, and the door of his compartment was kept closed, upon entering the hall from the street the odor was sickening. The family, in fact, had been threatened with eviction by the landlord.

In addition to these areas of active ulceration there were upon his trunk the remains, for the most part healed, of over eighty lesions, none of them less than one cm. in diameter and ranging in size from that up to half the size of one's hand. These eruptions had all taken place within the previous fourteen weeks. There were in all 284 ulcers. His emaciation was extreme, his weight having fallen from 178 pounds to less than 90 pounds within that time. The face was colorless; articulation was difficult. Liquid food only could be taken, and that with pain. Unassisted the patient could not lift his head from the pillow. The right hand could be raised to the mouth; the left arm not at all. So great was his weakness that practically no power of movement remained in the lower extremities. His stomach resisted five-grain doses of potassium iodide. He gave a history of chancres seven years previously, which had been cauterized, and, after a few weeks' treatment, having been discharged—cured.

He was placed upon the following treatment: Wet bichloride of mercury dressings were applied to all ulcerated surfaces excepting upon the cranium, and ordered to be constantly kept wet, being renewed once in twenty-four hours. After the first week the wet dressing was applied to the head, but a few days being required to remove the crusts and stop suppuration. Internally he was given the pure juice, seasoned with salt and pepper, of five pounds of beef daily, which amount was increased during the first week to that of eight pounds of beef. He was also given forty grains of potassium iodide, three times daily, the dose being increased during the first week to 115 grains t.i.d.

Following the removal of the crusts and cessation of the suppurative process, the ulcers were dressed with Unna's emplastrum hydrargyri mull. On the eighth day he sat up in bed to eat. On the tenth day he walked with crutches, and on the fourteenth day he walked to his meals unassisted. It is now two months since the first consultation, and he weighs 187 pounds.

Case II.—Woman, forty-one years of age, married, Polish, in America thirteen years. Eleven and a half years ago a pimple appeared upon the left cheek, which gradually extended, spreading over the nose, both cheeks and surrounding the eyes, producing pronounced cicatricial ectropion and leaving white scar-tissue in place of the normal skin. This process from first to last covered about one year in time and was painful and itched. From the face the lesion spread to the right side of the neck where it remained quite stationary for about seven years. During the past three years the activity of the process has been revived and now completely encircles the neck, extending in front of the right ear on to the cheek for about 5 cm. in front of the inferior maxillary angle, and down the sternum as far as the ensiform.

Within the past year a separate lesion has appeared upon the right breast which now measures about 6 by 15 cm. Within the past three months a new lesion has appeared upon the face, commencing as a pimple on the right cheek near

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the base of the nose and about 2 cm. below the right eye. From here it has extended to the bridge of the nose in a mesial direction, and as far laterally as the corner of the mouth, and reaching from this point to the lower border of the right eye.

The seat of this lesion is entirely upon the location of the original eruption eleven years ago. Within the past nine weeks a lesion measuring about 6 cm. has appeared upon the abdomen near McBurney's point. About seven weeks ago another lesion, measuring about 4 x 8 cm., appeared on the anterior surface of the right thigh, and within the last three weeks two more lesions, which now measure about 3 cm. in diameter, have appeared in the left inguinal region. The later eruptions have the appearance of fungoid excrescences and are raised above the surrounding tissues from 2 to 5 mm. Looked at from above they have the appearance of a cauliflower mass that has been tightly compressed. For the most part the surfaces of the excrescences are quite flat and even, those on the abdomen are less so and are sunken and irregular in the center.

The older eruptions have less elevation than the more recent ones, but all are distinctly elevated. The color of the later eruptions is light red with a tinge of purple. The one on the face is brownish. They are firm to the touch. Those on the thigh and the neck are very sensitive and painful; those on the neck itch. The others are not painful. About the margin of the eruptions on the abdomen is an area about 1 cm. in width which is dark and angry looking. About the one on the thigh this is less marked; and about the older ones still less so. The original eruption on the face eleven years ago began as a black pimple, with a history of but little discharge. The eruptions on the breast, the thigh, and the abdomen began, in the patient's own words, as "small swellings having a covering like tissue-paper," which broke with discharge of fluid. From time to time crusts have appeared which have dried up and fallen off. At present the application of an oily preparation seems to prevent their formation. There is little oozing. At times there is some fetor. The inguinal glands are not enlarged. The epitrochlear glands are not palpable.

During the past two weeks there has developed anesthesia to touch and pain and some paresthesia in the ulnar region of the right hand, extending from the wrist to the tip of the ring and little fingers. There has developed within the same time tenderness with rheumatoid pains, over the entire left tibia. The patient has borne fifteen children with the following histories: The first died at twelve years of "heart trouble;" the second, at fourteen months, cause unknown; the third is living and well, twenty-eight years old; the fourth died at eighteen years, of "consumption;" the fifth, at sixteen years of "consumption;" the sixth is living and well; the seventh is living and well; the eighth died at six weeks, cause unknown; the ninth died at eighteen weeks, cause unknown; the tenth is living and well; the eleventh is living and well, four years old, the youngest living; the twelfth died at two months, cause unknown; the thirteenth died at nine weeks, cause unknown; the fourteenth died at eight weeks, cause unknown; the fifteenth was still-born (the only miscarriage) three years ago, evidently near term.

There is no history of any sore-throat nor falling of the hair, nor any necrotic ulceration. The lesions have always appeared distinctly raised above the surrounding tissue. The husband came to this country one and one-half years before the wife, but reveals no history of sore-throat, falling of the hair nor eruption of any kind. The patient is well nourished, there being considerable excess of abdominal adipose tissue. She sleeps poorly on account of pain and for the past six weeks has had little appetite.

Microscopical Findings.—Histologically an epithelioma. Atypical epithelial cell-proliferation into the deeper tissues. Sections were stained for tubercle bacilli with negative results. Sections stained by thionin, methylen blue and klebs. Triple stain for protozoa, deeply staining bodies with hyaline rings in epithelial cell-masses, probably protozoa. A few organisms with double contour were present.

CLINICAL MEMORANDUM.

A NEW TRACTION HIP-SPLINT.

BY JAMES K. YOUNG, M.D.,
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THE inefficiency of any original appliance is shown by the number of modifications which it has undergone. The long traction splint designed by Taylor and improved by Shaffer has in my hands proved so efficient that modification has seldom been necessary, but the splint here described has been the result of an effort to construct an appliance combining all the good qualities of the better class of long traction splints in a cheaper form. The writer calls it his "Polyclinic hip-splint."

A piece of light gas-pipe is substituted for the hollow steel tube which is ordinarily used for the upright of the splint. Into the upper portion of this a piece is brazed, and perforated so as to attach it to the pelvic band by a heavy screw and two nuts. The waistband is the same pattern as that employed in the more expensive apparatus but of less expensive material, consisting of a band of sheet steel, covered with leather and well padded, with buckles for two perineal straps, and a leather strap completing the circumference. Into the leather end of the tube is inserted a forged foot-piece, the upper portion of

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which is cut with threads for two nuts, and the lower end has attached to it a piece of sole leather and a strap to buckle into the leg extension adhesive straps. The foot-piece should be prevented from turning by a screw working in a slot in the front part of the tube. The thigh pad is attached to the upright tube by a sliding steel arm made adjustable with a side screw and having four

FIG. 1.

The Polyclinic Hip-splint.

buckles. The tube may be fixed at any angle upon the pelvic band by means of the tube nuts, and extension may be made from the lower end of the tube by the two nuts.

This brace has been used by the writer for the past two years in dispensary practice and has proven itself cheaper than, and equally efficient with, the more expensive apparatus. It should be used with crutches and a high shoe.

222 South Sixteenth Street.

MEDICAL PROGRESS.

Permanent Artificial Anus.—R. F. Weir (*Med. Record,* April 21, 1900) describes a method of making an artificial anus which is under full control, even to the extent of preventing the escape of gas, and without the use of cumbersome apparatus. The gut is made to come out through the usual opening inside the iliac crest. The lower end is completely severed, closed by sutures, cleansed and dropped back into the abdominal cavity. For the upper portion a canal is made by separating the layers of abdominal muscles out to the iliac crest, where the fascial attachments are divided, and the canal continued subcutaneously to a point two inches behind and one inch below the anterior superior spine, where a second skin incision is made. Through this canal the upper portion of the gut, cleansed and closed, is pulled and sutured to the skin incision just mentioned. The skin incision inside the iliac crest is then closed. The bowel may be kept closed for twenty-four hours to prevent soiling before adhesions occur. No apparatus is necessary. A piece of gauze is laid over the opening and the weight of the clothing gives pressure enough to occlude the bowels as it passes over the crest of the ilium. In certain cases it is necessary to cut the mesentery a little to render the gut sufficiently movable to reach the extra-iliac incision and this cutting does least damage to the arterial supply, when the line of division is parallel to and one and one-half inches distant from the gut.

Castor Oil for Neuralgia.—Neuralgia and tic-douloureux are painful disorders which are often very obstinate and unyielding to any treatment. Harold N. Moyer (*Jour. Am. Med. Assoc.,* April 21, 1900) reports some brilliant results from the use of castor oil in these affections. He has treated about fifteen cases of neuralgia by this method, but only seven of these are reported. Of these seven cases, five were facial, and two were brachial neuralgias, and only one case failed to improve under the administration of the castor oil. One of the cases of brachial neuralgia was very severe, and various remedial measures had been employed without result. This patient was given a large dose of castor oil at noon, three hours later the pain had greatly decreased, and the following morning it had disappeared entirely. The patient took several more doses of the oil, but the pain did not return. Two weeks' treatment with castor oil cured an acute case of facial neuralgia. In one case of tic-douloureux, which had lasted for 17 years, the administration of the oil was followed by an immediate improvement of the pain. The spasms continue and there are occasional twinges of pain, so that the patient cannot be said to be cured, but the pain is so much less severe that the patient is more comfortable than he has been in years. Another case of facial neuralgia, which had lasted for five or six years, was cured at the end of one week of the castor-oil treatment and there has been no return of the pain. Six doses of castor oil cured a supra-orbital neuralgia, which had lasted for nearly fifteen years. In the case which was not benefited by this treatment, a mixed astigmatism and well-marked eye-strain were discovered. The writer administers the oil in from one- to two-ounce doses every morning before breakfast until relief from the pain is obtained. The oil should be "washed" and a few drops of essence of anise added to each pint. The best method of taking the oil is to stir it up in a tumbler with two or three tablespoonfuls of ale. He recommends Dogshead or Bass' ale, as they contain a large quantity of gas, and says that if the

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oil is taken in ale thus, it makes an emulsion with the ale and cannot be tasted. After the first doses the oil seems to lose a good deal of its cathartic power. The writer does not explain how castor oil acts in relieving neuralgia, but says that it is not due to its cathartic action. He discusses briefly the physiologic action of the drug, which is not as yet definitely determined.

Intermenstrual Dysmenorrhea. — The phenomenon of intermenstrual dysmenorrhea, if mentioned at all in text-books, is stated to be rare. Malcolm Storer (*Bost. Med. Surg. Jour.*, April 19, 1900) has observed this phenomenon in no less than 20 out of 400 cases. He presents notes of 20 cases of his own, and on these and 25 additional cases collected from literature, he makes the following observations: (1) The pain appeared with regularity in all the cases, practically every month except when pregnancy was present. In 22 cases the pain always occurred on a certain day from the beginning of the last menstruation. There was a variation in 13 cases of two days, and in 4 of four days. In 2 cases of irregular menstruation it appeared on a certain day before the beginning of the next menstruation. (2) In 37 out of 41 cases the pain appeared on from the twelfth to the sixteenth day, counting from the first day of the previous menstruation. In 20 cases it appeared exactly on the fourteenth day. In 2 cases it began on from the seventh to the tenth day, in one on the seventeenth, and in one on the eighteenth day. (3) The character of the pain was paroxysmal in a large number of cases, the attacks coming either at intervals of several hours, or else there was a constant pain with marked exacerbations, subjectively much like labor pains. The pain resembles that of menstruation in about one-half of the cases; in the others it was "entirely different." (4) The pain reached its maximum on the first or second day, and lasted in 10 cases two days, in 9, three days; in 8, one day, and in only 4 did it last four or more days. (5) The site of the pain in 14 cases was limited to one side, in 2 it alternated, and in 12 it was more general. (6) The pain was not accompanied by a discharge like that of menstruation in any of the cases. For this reason the writer objects to the term "intermenstrual dysmenorrhea." In 10 cases, however, there was a marked increase of leucorrhea, indicating congestion. In considering the etiology of this pain, Storer discusses the following theories which have been advanced: (1) The mechanical theory—tubes, ovaries; (2) the neurosis theory; (3) the intermenstrual cycle of congestion theory; (4) the intermenstrual cycle of ovulation theory. Not believing any of these theories to be entirely correct, the writer offers the following theory which he calls the "awakening of menstrual activity" theory. This intermenstrual pain comes on about the fourteenth day after the beginning of menstruation, which is the nineteenth after the climax of Stephenson's wave. Therefore it occurs just about the time the pressure line has reached its lowest point. If we then suppose that the intermenstrual wave, if one exists, is one of preparation rather than of subsidence, in which nature, suddenly awakening, begins to make ready for the coming activity, whether menstrual or ovarian, the readjustment of forces might account for the occurrence of this pain. This theory, the writer thinks, would not be incompatible with the fact that this pain occurs under such a variety of pathological conditions. He cites several cases showing that the pain has more relation to the coming menstruation than to the previous one.

Intestinal Suture.—W. Edmunds and E. C. Stabb (*Lancet*, April 14, 1900) performed experiments in circular enterorrhaphy. They used three different methods: Halsted's inflated rubber cylinders; Murphy's button; and Laplace's forceps. Seven trials of each method were made on dogs. All cases by the Halsted method were successful, only five by the Murphy button, and four by the Laplace forceps. The inflated rubber cylinder pushes back the mucous membrane which otherwise always interferes with suturing the outer coats, especially the peritoneum. At the same time it prevents the outflow of intestinal contents so that no clamps or ligatures are necessary. Murphy's button is not always trustworthy unless reinforced by external sutures, the placing of which lengthens the operation materially. Recovery is not so rapid after Murphy's button. After Halsted's method formed stools appeared next day; after Murphy's button formed stools occurred only after three or four days. Laplace's forceps are of little assistance.

Dormiol as a Hypnotic.—In order to satisfy all the requirements of a good hypnotic, a drug must be effective in all cases of insomnia irrespective of cause; it must be cheap, of fair taste and unaccompanied by sequelæ. R. Peters (*Münch. med. Woch.*, April 3, 1900) thinks the dormiol satisfies all these requirements to a high degree. It is a combination of chloral and amylenhydrate, occurring in form of an oily, camphoraceous liquid which can readily be given in capsules or in form of a ten-per-cent. aqueous solution. In the sleeplessness of functional and organic nervous diseases, as well as in pulmonary, cardiac, intestinal and nephritic lesions, its action has been uniformly good. After doses of 7.5 grains a more or less deep sleep will follow in one-half to one hour, and it is but seldom necessary to increase the amount up to 15 to 30 grains. As in other hypnotics, a certain degree of tolerance is established after a while.

Infantile Diarrhea.—W. E. Fothergill and J. Penny (*Med. Chron.*, April, 1900) report the observations on 71 cases of infantile diarrhea appearing in dispensary practice; 11 cases died, the remaining 60 recovering on salol or petroleum alone, the diet being an ordinary one suitable to the child's age. Salol was given in powder in 36 cases; half a grain every three hours was the min-

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imum dose and three grains every four hours, the maximum dose. Salol did not allay the vomiting and even proved irritant in many cases. The cough which so frequently is present was not appreciably influenced. Salol was, therefore, found to be a valuable intestinal antiseptic, but should be given to children not more than once or twice daily, and mixed with some demulcent. Petroleum was used in 34 cases, the preparation being an emulsion containing 33 per cent. of petroleum. The usual dose for child one year old was one dram three times per day. In all but two cases the results were satisfactory. No derangement of stomach was noticed, the vomiting usually stopping before the diarrhea. The movements rapidly resumed their normal smell, color and consistence. The bronchial catarrh was obviously improved in many cases. It is not probable that petroleum undergoes much change in the system since nearly all of it can be recovered in the feces. Bismuth may be combined with the above and calomel or hydrarg. cum creta seem to act better when followed by a few doses of petroleum.

Continuous Use of Digitalis.—J. Groedel (*Practitioner,* April, 1900) discusses the conditions of the heart in which he believes a continuous use of digitalis is sometimes indicated. He believes firmly in the physical and dietetic method of treatment of chronic disorders of the circulation, but urges the benefits derived from digitalis in many cases where internal medication is necessary. In the majority of heart diseases there comes a time when lasting compensation cannot be produced by rest, baths, gymnastics, or short courses of medicines. He believes that, instead of waiting for symptoms of incompetence, such as diminished diuresis, accumulations of fluid and dyspnea, it is much better to use digitalis at regular intervals, say four to eight grains one day a week or perhaps less frequently. In this way compensation may be preserved for a long time, and although finally the effect is lost and death results, yet the comfort of the patient is much enhanced in the meantime. Although the cumulative effects of the drug are to be avoided, the author has seldom seen a well-marked case of toxic symptoms referable to the heart. Secondary effects, such as nausea and flashes before the eyes, are more frequent and act as warning signals, especially when the pulse becomes irregular after only small doses. By observing diuresis dangers of cumulation may be avoided, for, if the urine is not increased after its use for several days, the drug must be stopped. The assertion that digitalis produces a rapid decline of strength is denied by the author who claims that this is due to the disease for which digitalis is taken. He further believes that the body does not become inured to the remedy and thus less effected by its administration. Mitral insufficiency is the lesion which is naturally most benefited by digitalis, but he believes that no entire class should be excepted, especially when no contraindications, such as great tension or an individual repugnance, exist. In cases of slight fatty degeneration in which the muscle is still capable of repair, continued use of digitalis oftentimes proves successful.

Constitutional Causes of Catarrhal Affections.—Catarrhal conditions of the upper air passages are so common and their treatment oftentimes so unsatisfactory, especially in this climate, that it is extremely important to discover the underlying cause which predisposes to the local condition. W. A. Wells (*Med. Record,* April 21, 1900) gives a valuable résumé of the constitutional affections which are liable to cause these catarrhal lesions and the treatment which he has found most successful. He believes that the local trouble may be considered secondary to the systemic disease when: (1) No adequate local cause is apparent; (2) direct local treatment has failed; (3) the catarrhal inflammation has manifested itself after the coexisting trouble; (4) catarrhal inflammations appear in other parts of the body; (5) the supposed cause is sufficient to produce these local effects; (6) and when treatment of the associated condition improves the local catarrh. It is believed that cutaneous eruptions, such as herpes, urticaria and pemphigus may appear as true reflex neuroses of nasal origin and on the other hand may act as the primary cause of the nasal trouble. The gastro-intestinal tract is, no doubt, responsible for much of the nasal catarrh and he recommends a careful consideration of it in all obstinate cases. Pepsin, hydrochloric acid and nux vomica are often very effective when given after meals. Intestinal obstipation is important and is most satisfactorily relieved, according to some authors, by sulphur. Intestinal flatulence is best relieved by regulation of the diet, massage and exercise, combined, if necessary, with such medication as: pepsini pur. and pancreatin ext., aa gm. ii; pulv. carb. liq., and bism. subgallate, aa gm. iv. M. Fl. chart. xii. S. One before meals. Cardiac lesions frequently cause a local engorgement and must be carefully examined for. Movable kidney and affections of the reproductive system of the female are sometimes responsible for sympathetic conditions in the nose and throat. Hysteria often aggravates a local inflammation and while topical treatment is being employed the hysterical state is perhaps best influenced by such methods as electricity, balneology, change of environment, and separation from too sympathetic friends. The gouty or neuro-arthritic diathesis no doubt plays an important rôle in many obstinate throat conditions and has fairly characteristic manifestations. The soft palate, fauces and posterior walls of the pharynx present a highly engorged condition approaching bagginess. Intense redness, pain in throat, difficulty in swallowing and soreness in the cervical muscles are usually present. The larynx becomes involved and gouty deposits are found in the crico-arytenoid joints and the true vocal cords. Locally, thiol, two to four per

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cent. in glycerin, is valuable, but the general condition must be improved by the salicylates, iodides and the alkaline treatment. Stress is also laid upon the sympathetic diathesis by which is meant the disposition to the origin of reflex disturbance in various parts of the body, shown so frequently by the attacks of hay-fever, migraine and asthma, etc. Too much importance oftentimes is attached to the local condition, the underlying morbid state, due probably to a vasomotor causation, being overlooked. The sedative or motor depressant drugs are most in vogue, such as bromides, opium, chloral, amyl nitrate and nitroglycerin. For hay-fever, in addition to the local treatment, he recommends:

℞ Zinc phospt. .....gr. $^1/_{16}$
Quinine sulph. .....gr. ij
Ext. belladonnæ .....gr. $^1/_8$.
S. One pill before each meal.

Neurasthenia, no doubt, oftentimes prepares a ground of such sensitiveness that a minimum change shall give rise to maximum symptoms. Rest, massage, electricity and change of environment are important. The glycerophosphates perhaps are the most efficacious drugs for internal medication in neurasthenic cases.

Purulent General Peritonitis.—F. Bode (*Mitt. aus den Grenzgebieten der Med. u. Chir.*, 6. Band, p. 286) says that the general peritoneal cavity is roughly divisible into four cavities, an upper, from the hollow of the diaphragm to the level of the navel where the anterior abdominal wall closely approaches the posterior forming a strait, a right and a left cavity, comprising each iliac fossa and bounded internally by the anterior border of the psoas muscles, and, finally, an inferior cavity, comprising the true pelvis and the space above it between the two psoas muscles. The arrangement of the boundaries and contents of these spaces determine the natural walling off of abscesses within them from the general peritoneal cavity. Such occurrences are common in appendicitis, in diseases of the uterine adnexa, in those of the stomach, duodenum and gall-bladder, and furnish the first hint in the treatment, namely, thorough drainage of each cavity with reference to its usual boundaries in cases of general peritonitic infection. The second indication is the complete irrigation of the affected local or general peritoneal cavity with salt solution at the time of operation and thereafter by permanent irrigation, if necessary, both to wash away the exudate and to prevent undue adhesions. The hindering of these unnecessary adhesions is at least for a time provided for also by leaving considerable solution in the cavity at the operation. By such constant flow or frequently repeated flushing and a carefully planned drainage of one pocket into the others, the pus is mechanically removed and tends to settle in the depths of these four recesses whence drains take it to the surface of the body. The method of procedure is as follows: When the peritoneal cavity has been opened without respect to the light adhesions, all the movable intestines are eventrated and washed and search for and treatment of the perforation or other cause of the disease made. Likewise careful attention is given to cleanse and dry all depths of the cavity, those of the pelvis, about the liver and spleen, etc. The quantity of solution is 30-40 quarts at a temperature of 105-115° F. Peristalsis is promoted and shock combated by the treatment, notwithstanding the manipulation. The eventrated intestines are next replaced. Then a long fenestrated rubber drain-tube is carried through the base of the mesentery, curved on itself along each side of the vertebral column and passes over the colon through a secondary opening in each flank. Other drains are carried through the lateral incisions into each iliac fossa and through the original median approach to the environments of the liver, stomach and spleen. Under continuous current of salt solution to drive out the air the incisions are narrowed by layer sutures as much as possible. The potency of all the tubes is tested. Copious dressings are now applied and the patient put to bed with head and trunk elevated to promote gravitation of the exudate downward to the drains. Then a thorough flushing out of all the tubes with 1000-1500 c.c. of warm salt solution was done two or three times daily, attaining cleanliness, stimulating peristalsis, promoting defecation, and preventing collapse. The results quoted are all good. Upon the cadaver irrigation through similarly arranged tubes with colored fluid was shown to be far-reaching and efficacious.

Bacteriology of the Gall-Bladder.—Dr. L. von Mieczkowski (*Mitt. aus den Grenz. der Med. u. Chir.*, 1900, p. 307) says that he has established the fact that in healthy animals the contents of the healthy gall-bladder, hepatic and cystic ducts are usually sterile, while those of the distal, *i. e.*, intestinal, end of the common bile-duct are very commonly infected from the cavity of the duodenum. In man he has confined his observations to the gall-bladder during laparotomies. Here he finds sterility always present in health and even in cases of cholelithiasis not associated with inflammatory complications. The reaction of the bile was commonly feebly alkaline or neutral. He also found that fresh human bile is only imperfectly germicidal, permitting the staphylococcus pyogenes to proliferate rapidly and the bacillus coli communis almost unhindered. The normal sterility of the gall-bladder contents and of the proximal ducts may be explained by the force and direction of the flow, which sweeps back into the intestine any germs which may tend to invade more than the distal end of the common duct. When bile stasis in disease occurs, this cleansing current is stopped and germs promptly invade the proximal ducts and the bladder, especially the bacillus coli. Such cases of cholelithiasis as are sterile may be explained by the pouring out of sterilizing fluids into the bladder during the acute stage, which either totally or partially destroy the bacteria. Experiments with

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animals also showed that fatal peritonitis occurred more often when the contents of the infected bladder were thick and imperfectly absorbable than when thin and more readily taken up by the lymphatics.

Tannopin.—There is a great advantage in combining tannin with other compounds which allow it to pass the stomach unaltered, but the effect is heightened if at the same time an antiseptic is set free. Tannopin or tannon, a combination of tannin with urotropin, is one of the most reliable of this group according to E. Doernberger (*Münch. med. Woch.*, April 3, 1900). Small children take doses of 7.5 grains without abdominal discomfort or other undesirable symptoms. It is necessary to continue the drug some time after the acute or chronic diarrhea has abated to guard against relapses. The only disadvantage is the expense.

Cause of Xerosis Conjunctivæ.—It has recently become the prevailing opinion that xerosis and keratomalacia are bacterial affections; a view supported by the fact that numerous micro-organisms have been isolated from the conjunctiva. M. Radziejewski (*Therap. Monatshft.*, April, 1900), however, thinks that the primary lesion is due to a nutritional disturbance which creates a *locus minoris resistentiæ* and thus explains the bacterial flora found. There generally is no uniformity as to the number and variety of bacteria present; thus in addition to the xerosis bacillus, streptococci, staphylococci, pneumococci and others have been encountered. As to treatment, in addition to tonics, frequent irrigations with chlorine water, hot poultices and the application of iodoform are recommended, with later the continued massage with yellow oxide of mercury ointment.

Itrol in Diseases of the Skin.—Not only in gonorrheal and other venereal troubles has this citric acid salt of silver given evidence of its therapeutic value, but also in affections of the skin is its worth highly lauded by O. Werler (*Wien. klin. Rundschau*, April 1, 1900). The methods of application of itrol are the following: (1) In a solution of 1-10,000 up to 1-4000 for wet dressings, irrigations, etc.; (2) in powder form; (3) as itroltalcum in one-half to five per cent strength; (4) in vaseline up to a strength of two per cent; (5) in pencil form in one to two per cent. strength, mixed with ol. cacao in a base of cera alba. Itrol answered in all cases where an antiseptic and disinfecting medium was called for. It acted in a mild, but efficient manner and was entirely harmless to the patient. No irritation of the skin followed its use. No idiosyncrasy for the remedy was discovered in any of the patients. It is only necessary to begin the use of itrol with small doses, gradually increasing them, to insure entire freedom from pain and a possible local irritation.

Formalin Alcohol in Night-Sweats.—At a meeting of the Berliner Medicinische Gesellschaft (*Berlin. klin. Woch.*, April 9, 1900), H. Hirschfeld read a paper on the success attained in phthisical night-sweats by the use of a mixture of formalin and alcohol. The method is as follows: A mixture of equal parts of formalin and absolute alcohol is applied by brush or cotton wad to those parts of the body subjected to the sweats. Caution must be observed, however, in order to prevent the patient from inhaling the formalin vapors; for should this occur, the breathing becomes oppressed, the nasal and pharyngeal mucous membranes become irritated, tendency to cough results, the eyes become inflamed and the patient is thereby made miserable. To prevent all this, Hirschfeld provides himself with gutta-percha tissue—about a square yard—which he wraps around the patient, the latter being covered only by an undershirt. This envelope is slightly lifted while the brush moistened with the formalin alcohol is applied to the back. Then the patient is told to lie on his back, the shirt and gutta-percha covering the chest and abdomen are raised, and the same application made here. It must be carefully done and all crevices where the formalin vapor might escape, *e. g.*, about the neck or the waist, must be closed by means of cloths covered with the gutta-percha tissue. Then the patient is covered with the bedclothes and remains so for one hour. After that time the formalin vapor has disappeared from the skin and the rubber tissue may be removed. When done thoroughly and carefully, not a trace of the vapor reaches either eye or respiratory apparatus. In some case, one such treatment is all that is necessary to prevent the sweats for many weeks. In others it happens that after two, three or four weeks a second procedure is called for. It is only in the most stubborn cases that a second or a third treatment within a week may be necessary. As for the power of the skin to withstand the formalin when applied over a course of some little time, Hirschfeld says that he met only occasionally with disagreeable results. Once, an urticaria; twice, slight erosions, and at times a scaling of the epidermis were the chief effects. He now paints the back, chest and abdomen in one sitting, leaving the arms and legs for another. It is to be observed that the formalin is not to be applied to parts which may have wounds or erosions; nor to parts which have recently been covered with mustard plasters or painted with iodine; nor to the nipples and navel, the genitals and the arms. A slight burning sensation follows the application of formalin, especially in delicate skins. Such cases should be treated with a weaker solution of formalin than ordinary ones. Under no condition should the formalin be entrusted to the patient's care or use. Grave results can be occasioned thereby. The final words to be said for formalin are: (1) It is superior to all other anthidrotics in its certainty of action and its promptness; (2) in the length of time over which it produces its effect; (3) all other remedies are superfluous. There is no doubt in Hirschfeld's mind that formalin has gained a high point in phthisiotherapy.

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SATURDAY, APRIL 28, 1900.

THE CONGRESS OF AMERICAN PHYSICIANS AND SURGEONS.

BEFORE the appearance of our next issue the Fifth Triennial Session of the Congress of American Physicians and Surgeons will be held in Washington. The program of this session has been more wisely arranged than formerly in that it is designed to attract the members of the constituent societies to the meetings of the Congress. Instead of an effort to present elaborate, epoch-making theses, the general subject of "Bacteriology in Health and Disease" will be presented in its various aspects by a series of short papers. This is eminently wise, as it gives great variety to the program and adds to the interest by the number of speakers that will appear.

The first session of the Congress, which will be held Tuesday afternoon, will be occupied by this discussion, while that of Wednesday will be devoted to two addresses on topics of general interest, and a poem by Dr. S. Weir Mitchell. In the evening of that day Dr. Henry P. Bowditch will deliver the presidential address upon "The Medical School of the Future."

The programs of the constituent societies set forth a veritable feast of medical lore and discussion. More time than formerly will be allowed these, the meetings of the Congress being limited to the two sessions of Tuesday and Wednesday afternoons. The social functions have not been neglected, and invitations to private dinners, luncheons, etc., will reach their climax in the banquet on Thursday night. The MEDICAL NEWS of May 5th will present a complete but concise report of the entire meeting, together with some of the most important addresses and essays.

PROPHYLAXIS OF CHILDREN'S DISEASES.

WE are getting ever farther and farther away from the idea, once so prevalent, that the so-called "ordinary diseases of childhood" are practically inevitable. While the most careful precautions are necessary to prevent the spread of measles, scarlet fever, and whooping-cough, the problem of their prophylaxis is by no means hopeless of solution. School inspection has in recent years made it clear that the prevention of the spread of infectious disease among the children of a neighborhood is only a matter of exact segregation. It remains now for the family to demonstrate that even when a contagious disease has entered a household, it is by no means a foregone conclusion that all of the susceptible members will be attacked. This is already a happily accomplished fact in the practice of many physicians.

It has been often said that scarlet fever is intensely contagious. It is true that the germs of the disease retain their virulence for a long time and outlive seemingly unfavorable conditions, such as long transportation in letters. The disease does not spread, however, except by direct contact with material from a scarlet-fever patient. As for whooping-cough, attention has been called in France to the fact that the mere separation by the corridor of a hospital of those suffering from the disease, and the prohibition of the passage of attendants from an infected to an uninfected ward are sufficient to prevent the spread of the disease. In measles segregation precautions to be effective must begin early and must be very carefully enforced. Even against its eminent contagiousness, however, a barrier can be placed much more effectively than formerly because of the help that Koplik's spots afford in the early diagnosis of the disease.

All of the diseases of children are worthy of respect in this matter of prophylaxis. Even mumps and chicken-pox may give rise to compli-

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cations in the joints, kidneys or heart, that will seriously interfere with subsequent good health, and make the patient much less resistant to disease later in life.

Now that schools are becoming less a factor in the spread of contagion, the physician himself must take additional precautions that he, in the course of professional work, does not prove a source of contagion. The practice of wearing a long washable overgarment while attending cases of contagious disease is no longer merely an extraordinary precaution to be taken in better class families. It has become a plain duty for the physician in all cases. Children can, without doubt, be guarded effectively from all contagion until such time as their resistive vitality will protect them. Freedom from the contagious diseases of childhood will often mean perfect health for the individual up to adult life, while, as is well known, these diseases often leave their "marks" on developing adolescents. Damaged constitutions result that prove an easy prey to typhoid or pneumonia or insidious tuberculosis.

THE AMERICAN MEDICO-PSYCHOLOGICAL ASSOCIATION AND THE PATHOLOGICAL INSTITUTE OF THE NEW YORK STATE HOSPITALS.

IF we give a rapid but critical glance at the vast field of psychiatry, we are struck by the significant fact that but few epoch-making works commensurate with those presented in other fields of enquiry are to be found. In the progress of physiologic, biologic, psychologic and medical sciences, psychiatry and especially psychopathology, that is, the science of abnormal mental life in general, have no doubt had their share, but that share is small, compared to that of other sciences. General laws, the essence of all science, are conspicuously absent in the province of psychiatry and a well-established and generally-accepted theory guiding psychiatric practice is as yet unknown.

What may possibly be the cause of this lagging of psychiatry behind all other sciences? Is it that psychiatrists care not for scientific progress? Is it that psychiatrists do not realize the modern point of view that theoretical science is an indispensable requisite of applied science? To these questions the answer must be favorable to the profession. The psychiatrists do care for scientific progress and do realize the importance of theoretic research work. Where then lies the cause of the slowness of psychiatric progress? It lies partly in the extreme complexity of the science and partly in the lack of organized scientific investigation to work out results that are otherwise inaccessible to individual efforts. Psychiatry is far more complex than all other medical sciences, because, in addition to physical processes, psychic activities and their symptoms must be investigated. It is from this standpoint that more united efforts are required to make a successful start on new lines of research. What still more retards the growth of psychiatry is the fact that, although being the most complex of all medical sciences, it lacks central laboratories for special scientific research. And when such a laboratory is accidentally established with some degree of success, an asylum superintendent, who has but a faint conception of scientific work and of the spirit of toleration, tries to lay violent hands upon it and suppress it.

In our country, in the State of New York, a research center, the Pathological Institute was established for investigation of insanity along many lines of research. Instead of having the support of all interested in psychiatry, asylum superintendents in the function of commissioners, committeemen and hospital managers have been first and foremost in attempting to cripple it and stifle the very spirit of its work.

We must not, however, accuse all psychiatrists indiscriminately. For after all such destructive tendencies are confined to but a small portion of the profession, a portion that is used to authority, to order about, to command and to dictate. Unfortunately, science cannot be directed by mandates and ordered about. Science flourishes in freedom.

The issue now is, shall psychiatry be independent or shall it move, live and do the bidding of commissions, committees, and asylum managers? The question is a vital one. For it means the life of psychiatry as a science; it means the life of psychiatry as an American cultivation. It is to the honor of the United States that such an institute of wide scope was first established on American ground. Will the American Medico-Psychological Association permit an outrage on psychiatry in general and on American psychiatry in particular? Will the American Medico-Psychological Association let the reproach fall on it that it witnessed with equanimity, with indifference, the destruction of a psychiatric institute without raising even as much as a protest in its defense? The American Medico-Psychological Association, if we understand it aright, is for the

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maintenance of the interests of psychiatry; it is, moreover, the guardian of American psychiatry. Will not then the Association stand firmly by psychiatry as a science and deprecate and denounce all those who want to regulate psychiatry by mandates, edicts and bulls? Will the psychiatric profession and the American Medico-Psychological Association in particular let the charge fall on it that it permitted scheming personalities and unrestrained individual jealousies to undermine a scientific research center of much promise, a center which European authorities recommend to their own countries as a worthy model?

ECHOES AND NEWS.

NEW YORK.

Hospital for Sick Animals.—The Commissioners are constructing a hospital in connection with the Central Park menagerie for sick animals. The hospital is designed more especially for sick deer, but a part of it will be set aside for the feline species.

Crusade against Spitting.—Dr. Robert A. Black, chief of the Health Department of Brooklyn, has begun active steps in enforcing the law against expectorating on the floors of public buildings, ferry-boats, or street cars. Two men were arrested April 11th on the street cars for spitting upon the floor. The penalty for breaking this ordinance is a fine ranging from $1.00 to $250.00. An arrest was also made the same day upon the Third Avenue Elevated Road.

Gift to Mt. Sinai Hospital.—Meyer Guggenheim and his sons have given $200,000 to Mount Sinai Hospital. The money is to be used to erect a hospital building in the group to be built in Fifth Avenue between One Hundred and One Hundred and First Streets. The new building will be erected as a memorial to the deceased wife and mother of its donors. The structure will be set apart solely for private patients.

Nicoli Dead.—The acrobat Nicoli, who, in attempting a triple somersault in one of the New York theaters last week, fell and dislocated one of his cervical vertebræ, died April 23d. An operation was performed at Bellevue Hospital to relieve the pressure made upon the cord by the sixth cervical vertebra, and it was believed at one time that the patient would recover, but he gradually succumbed.

Anthropology at the Barge Office.—Professor Ripley and ten post-graduates at Columbia University made a descent recently upon the Barge Office (immigrant quarantine) in search of interesting specimens. Their careful measuring of skulls and their fluent talk concerning the Retzius principle of measurement of dolichocephalic, brachycephalic, and mesocephalic craniums created no little excitement among the bewildered immigrants.

Contagious Diseases.—For the week ending April 12, 1900: Measles, 716 cases and 27 deaths; diphtheria, 240 cases and 55 deaths; laryngeal diphtheria (croup), 18 cases and 5 deaths; scarlet fever, 176 cases and 18 deaths; chicken-pox, 14 cases and no deaths; tuberculosis, 201 cases and 182 deaths; typhoid fever, 7 cases and 3 deaths; cerebrospinal meningitis, 10 deaths; totals, 1372 cases and 300 deaths.

Dr. Jacobi Honored.—A number of friends, professional associates and admirers of Dr. Abraham Jacobi have arranged to celebrate his seventieth birthday by giving him a dinner at Delmonico's on the evening of May 5th. This is recognition of the high esteem in which Dr. Jacobi is held personally and of the valuable services he has rendered in various relations during the course of his career of almost fifty years as a physician, educator, and civic worker. In accordance with a long-established German custom, it is the intention of those having the matter in charge to publish a "Festschrift," that is, a series of papers by representative men, setting forth the present status of science in the various departments of medicine. The affair is not exclusive in any particular; application blanks for a seat at table can be secured by addressing Dr. A. G. Gerster, Chairman, P. O. Box 3032, New York City.

New Genito-Urinary Organization.—A number of the leading genito-urinary specialists of this city have formed a society to be known as the New York Genito-Urinary Society. It will meet monthly, when cases will be reported and papers read on different branches of the specialty. The office-bearers are: President, Dr. Ramon Guiteras; Vice-Presidents, Drs. Winfield Ayres and Otis K. Newell; Treasurer, Dr. George W. Blanchard; Secretary, Dr. A. D. Mabie; Corresponding Secretary, and Stenographer, Mr. Samuel Bennett, 161 Garfield Place, Brooklyn, from whom information as to terms of membership, etc., may be obtained. Correspondence is invited with specialists in other parts of the country and abroad.

Ambulance Wrecked.—A Flower Hospital ambulance, while making a hurry call recently, was wrecked at Third Avenue and Fifty-Eighth Street. The driver, Frank McKenna, and Dr. Peckham, the surgeon, received various scalp and other wounds. They were taken back to Flower Hospital in an ambulance from the Presbyterian Hospital.

Obituary.—Dr. John Habershaw died on April 20th in his forty-sixth year. He was graduated from the College of Physicians and Surgeons and was in active practice. He was widely known socially.

Bellevue's Interpreter.—Joseph Klovetschek,

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who was killed on Park Row on April 21st, was unofficial interpreter at Bellevue Hospital. A German by birth, he spoke French, Spanish and Italian, and enough of many Eastern dialects to make himself understood. Greeks, Armenians, Arabs and even Chinamen made themselves intelligible through him.

Hot Air in Bellevue.—The Sprague apparatus for the treatment of rheumatism, sciatica, etc., has been placed in Bellevue Hospital. Air heated to a temperature of 400° F. can be applied to the whole body, while there is a separate apparatus for a single member. Until now the hot-air treatment has been applied at Bellevue by means of a simple thermostat manufactured on the premises. By this means only a comparatively low temperature could be secured. The hot-air treatment is a modification of the Turkish bath, the great advantage of the former being the non-respiration of the heated air by the patient and the consequent possibility of securing a much higher temperature. The present apparatus permits the patient's head to be uncovered and also allows of frequent moist applications to the forehead.

PHILADELPHIA.

Bequests.—By the wills of Mrs. Rebecca Emslie and Mr. George W. Miles, which have lately been filed, over $130,000 has been left to the various hospitals and charitable institutions of the city.

Home for Incurables.—The J. Lewis Crozer Home for Incurables at Chester has recently been dedicated. The building has accommodations for 160 patients. Dr. D. P. Maddox has been appointed chief surgeon.

Episcopal Hospital.—A new nurses' home, four stories in height, has lately been added to the hospital facilities. The building contains more than 80 rooms.

Tuberculosis Meeting.—The annual meeting of the Pennsylvania Society for the Prevention of Tuberculosis was held April 11, 1900, at the Academy of Natural Sciences, Philadelphia. Dr. Guy Hinsdale was elected president and Dr. Alexander H. Davisson secretary.

Health Report.—Deaths in the city for the week ending April 21st were 739, an increase of 48 over the previous week and 234 over the corresponding week of last year. Contagious diseases: Diphtheria, 71 cases, 15 deaths; scarlet fever, 62 cases, 10 deaths; typhoid fever, 77 cases, 14 deaths. There were 31 deaths from influenza.

Physician's Life Threatened.—Dr. Charles Shaffner narrowly escaped injury at the hands of an insane woman last week. Five shots from a revolver were fired at him, but luckily none of them took effect. The woman appears to have been plotting the deed for some months, testifying that voices from Heaven had commanded this action.

College of Physicians.—The Section on Gynecology met April 19th. Dr. C. P. Noble reported two cases of epithelioma of the vulva. He has had but four cases, three of which have died. The fourth, a woman aged sixty-three years, has now lived nearly two years after operation with no signs of recurrence. If the case is seen early enough for operation he advises wide excision of the parts and a dissection of the chain of lymphatics, and their including fatty tissue, which leads up to the groin as well as the glands of the groin itself.

Dr. M. O'Hara, Jr., demonstrated an anastomosis forceps which is exceedingly simple in its construction and working. The instrument consists of two pairs of long-bladed forceps which can be fastened together by a serre-fine clamp. The forceps are applied one on each side of the portion of intestine to be resected, the resection made, the forceps approximated and fastened together, and the ends of the intestine united, preferably by mattress sutures. The advantages claimed are: The rapidity and ease with which an anastomosis can be done; the lessened risk of after contraction; the cavity of the bowel is not exposed at any stage of the operation, thus limiting the risk of infection.

Dr. R. G. Le Conte reported two cases. One was the removal of a multilocular ovarian cyst weighing 32 pounds, six weeks after the patient had passed through normal labor. The second case was one of traumatic rupture of a dermoid cyst. The patient had suffered from pain in the back and abdomen for a period of four years. After a severe fall upon the right side of the abdomen, increased pain was felt and bloody urine was passed. A fibroid mass was felt at the right side of the vagina. Abdominal section revealed the presence of an oily fluid in the peritoneal cavity and a greatly thickened omentum. Matted hair, part of a jaw-bone, teeth, etc., were found. The sac of the cyst was adherent to the ovaries, uterus and rectum.

CHICAGO.

Presbyterian Hospital Fund.—The Easter offerings of eighty churches of the Chicago Presbytery were devoted to this fund. Nearly the whole of the amount desired, $20,000, was raised. The greater part of this sum will go toward the expenses of electric lighting and a sterilizing plant.

Vital Statistics.—During the week ended April 14th there were 558 deaths reported in this city, this being 14 fewer than the preceding week, and 21 fewer than during the same week of 1899. It is noted, in comparing the past week with the corresponding period of 1899, that fewer children but many more aged persons are dying this year. The mortality of those under 5 years of age amounted to 134 last week, while one year ago 200 died at this age, a decrease of 66 for the week. During the past week the mortality of those over 60 years of age was 142, as against

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115 for the corresponding week of 1899, or an increase of 27 for the week just ended. Pneumonia continues to be the principal cause of death, there having been 127 cases recorded during the week. Deaths from influenza numbered 27 during the week, the largest number from this cause for any week this year. There was only one death from scarlet fever, the lowest on record since the week ended Jan. 1, 1899.

Out of the 4138 pupils examined during the week, 251 children were excluded.

Quinine as an Oxytocic.—At the meeting of the Chicago Medical Society, held April 18th, Dr. Gustav Kolischer presented notes on some points in obstetrical practice. Attention was especially called to the diagnosis, treatment and position of the mother in cases of anterior vertex presentation, as the pelvis is in this condition frequently malformed, giving rise to serious complications. According to statistics, this condition is met with in from 8 to 10 per cent. of all confinements. The author believes in the effectiveness of quinine, which does not produce nor increase the pains, as is believed by so many, but, on the contrary, is extremely effective in regulating the pains and making them less exhaustive to the patient.

GENERAL.

Fate of the Hospital Ship "Missouri."—The board of officers from Washington who have been inspecting the hospital ship "Missouri," have recommended that she be turned over to the Quartermaster's Department for use as a freight ship.

Folding Bed Fatal.—Dr. A. B. Allyn, a prominent physician of Chadron, Ohio, has died of injuries received recently by being shut up in a folding bed.

Canned Meat for Soldiers.—War Department officials have been compelled to resort to the use of canned roast beef for subsistence of the army in the Philippines. This is due to the fact that it is absolutely essential that the soldiers shall be served with fresh meat and because of the impossibility of providing refrigerated beef or cattle on the hoof under existing conditions.

Abuse of Red Cross Privileges.—A dispatch from Pretoria announces that when the so-called ambulance corps recruited in Chicago for service with the Boer Army reached the Transvaal capital, half the members of the organization immediately enlisted, and, tearing off their Red Cross badges, accepted the Mauser rifles provided for them by the pious burghers. Consul Hay immediately expressed his disapproval of this episode to the Boer Government and informed it that he would report its details to his superiors in Washington. Such action on his part was eminently proper, and it is to be hoped that it will lead to the taking of effective precautions against any further abuse of Red Cross privileges. The Red Cross will find its future work seriously hampered if it permits men wearing its symbols to violate their pledges of neutrality, and to use its immunities as a means of aiding one belligerent against another.

Roentgen again Honored.—The National Academy of Science, at its recent session in Washton, D. C., awarded to Wilhelm Conrad Roentgen, the inventor of the X-ray, the Bernard medal. This medal is presented only once in five years, and is given to the person making the most important scientific discovery during that period.

Women Doctors Wanted in China.—Mrs. Wellington White, a missionary doctor from China, made an impassioned address at one of the meetings of the Ecumenical Conference now in session in New York, and a fervent appeal for more women doctors in China. "Twenty years ago," she said, "when I went into the Province of Kwang-Tung, there were 40,000,000 people there, of which 20,000,000 were women, and not a woman doctor among them all, and the men would rather let their wives die than allow a man to cross the threshold to treat them.

Examination for the Marine Hospital Service.—A board of examiners will be convened at the Service Building, 378 Washington Street, New York City, Wednesday, May 23, 1900, for the purpose of examining candidates for admission to the grade of assistant surgeon in the United States Marine Hospital Service. Candidates must be between 21 and 30 years of age, graduates of a reputable college, and must furnish testimonials from responsible persons as to character. For further information, or for invitation to appear before the Board of Examiners, address Supervising Surgeon-General, United States Marine Hospital Service, Washington, D. C.

The Plague.—The reports from Honolulu, April 17, *via* San Francisco, announce that only one case of plague has appeared since the previous report, that of a half-caste girl, aged thirteen years, ending fatally. The cities Hilo and Kahului are pronounced clean of the disease. The steamer "Australia" was the first since the outbreak to leave Honolulu carrying steerage passengers for San Francisco. The vessel sailed April 17th. The sudden deaths of Filipinos and Chinamen in the Central Market at Manila have led to an investigation showing that fifteen cases of the plague, fourteen of which were fatal, have occurred within a week. The market is located in the center of the city. In black, rotten, wooden buildings, the keepers of the stalls live, with their families huddled together in great filth. Some of the victims were stricken and died within an hour. There have been several deaths in other sections of the city also which have been traced to infection from the market. Recently, after all the market people had gathered, the health officers threw a guard around the buildings, and will keep the inmates quarantined there for a fortnight. They will then burn the market. The total number of bubonic plague deaths thus far are 119 Chinamen and 66 Filipinos.

Last week we reported the appearance of the

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plague at Aden; since that time there have been cases reported at several points on the Red Sea. Considerable alarm is expressed in Australia lest the bubonic plague be spread by the rabbits, and a commission has been appointed to investigate the possibility of rabbits, like rats, carrying the dread disease. A report that rabbits had introduced the plague into Northern Victoria caused a panic in that colony. Throughout India, during the week ending April 18th, the number of fatal cases of plague slightly decreased, but the aggregate was upward of 4,000. The famine continues a source of great distress. One district lost 1,000,000 cattle out of 1,300,000 head and almost numberless human beings were found dead from starvation. In addition, children were found wandering in all directions, homeless, naked, and emaciated, and cases were reported of children being sold. The official reports fully confirm the worst stories of the terrible nature of the distress. It is also announced that the natives are developing ugly feelings and are attacking Europeans. A great crowd of natives murderously attacked a party of soldiers at Shahpur, the military center of the Northwest provinces. The soldiers were rescued with difficulty and in an unconscious condition. The Viceroy of India, Lord Curzon, wires that the recent rainstorms have not improved the situation, that the demands for relief are increasing, now reaching 5,319,000 persons, but that the arrangements for relief are equal to the increasing strain. Over 5,000 bushels of corn will be shipped from the State of Kansas to the famine sufferers of India. The United States Navy Department has secured a five-thousand ton steamer to carry the food supplies collected in New York by charitable institutions to these plague and famine-stricken sufferers. A steamer has also been secured at San Francisco to carry similar supplies from that port.

Divine Healer's Mail Held.—Twelve sacks of mail addressed to Francis Truth, the "divine healer," who was arrested recently at Boston, charged with fraud, have been impounded by the United States Government under the usual "fraud order." Many of the thousands of letters contained in the sacks carry money for "absent treatment." Truth's usual charge was $5 for absent treatment, so that necessarily the amount of money contained in the letters is very large. The twelve sacks of mail will be opened by the postal authorities. The letters which bear names and addresses on the envelopes will be returned with the money contained therein to the writers. The other letters will be sent to the Dead Letter Offices at Washington to be opened.

The "Maine" Reaches England.—The United States hospital ship "Maine" arrived at Southampton April 23 from South Africa. Mesdames Adair, Ronalds, Blow, and others of the Hospital Ship "Maine" Fund Executive Committee, with Mr. Baker, President of the Atlantic Transport Company, intended to give a cordial and elaborate reception to the "Maine" and Lady Randolph Churchill. A special steamer had been secured to take the party to the Solent to meet the "Maine" and escort her to the docks. But, to the chagrin of all, the hospital ship's early arrival frustrated the plans, and the committee, on reaching Southampton, found the "Maine" already berthed at her quay. She brought altogether 151 men and 12 officers. Fifty of these were surgical cases. The enteric fever patients made wonderful recoveries under the American cold-bath treatment. There were three deaths during the voyage.

Dr. Schenk Coming.—If there be any truth in a rumor widely prevalent, America is again to pay the penalty of her boast to be "a refuge for the oppressed of every nation," as Dr. Schenk, of "Determination of Sex" fame, is said to be about to betake himself to our shores. It will be remembered that he was compelled to resign his chair in the University of Vienna, on account of his famous brochure, some months ago.

CORRESPONDENCE.

OUR LONDON LETTER.

[From Our Special Correspondent.]

LONDON, April 21, 1900.

DIVISION OF PROFESSIONAL OPINION UPON MIDWIVES' BILL—THE ALLEGED ARISTOCRACY OF THE PROFESSION—REELECTION OF DR. CHURCH AS PRESIDENT OF THE COLLEGE OF PHYSICIANS—TELEGRAM TO THE PRINCE OF WALES—CESSPOOL UNDER RESTAURANTS IN LONDON—EXAMINATION OF MILK COWS IN LONDON—SATURDAY HOSPITAL FUND NOT SHRINKING—SIR WILLIAM PRIESTLY.

THE wide divergence which exists between the two great classes of English medical men, the consultants and the general practitioners, has seldom been more clearly and in some respects amusingly illustrated than in their attitude upon the proposed Midwifery Bill. The views of the former class are well typified in the editorial remarks of one of them in the *Practitioner*. These begin with the astonishing statement that many practitioners would be glad to turn over all their confinement cases to competent women, and that the majority would prefer to leave the cheaper class of midwifery in their hands! Than which a better illustration of utter and complete "detachedness" from the feelings and needs of the lowly family physician could hardly be imagined. Think of the possibility of holding family practice without attending labor cases, to say nothing of even the "cheaper class" of these, as indispensable sources of income.

In his further admonition to the mass of the profession that legislation of some sort is inevitable and that they will gain nothing and lose much by letting the impression get abroad that their opposition to it is merely a dog-in-the-manger fight to retain a paying monopoly, there is

probably more truth, although it is hardly to be expected that the struggling country doctor will relish hearing it from the serene heights of Brook Street or Cavendish Square.

On the other hand, the practitioners, both through their editorial mouthpieces and by public meetings, are denouncing the bill as "calamitous," reproaching the General Medical Council and the College of Physicians and Surgeons for their lukewarmness in opposing and for even partially consenting to its passage. Their demand that the new licentiates should be termed "midwifery nurses" and permitted to practice only under the direction of a physician, does perhaps smack a little of selfishness and is certainly injudicious as insisting upon the unattainable, although it would redound to both the health and happiness of the community if it could win.

All this is simply typical of the friction which is continually cropping out between the two divisions, the officers and the privates, so to speak, of the medical army. The consultants have, not unnaturally, secured a heavy preponderance upon the great governing bodies and councils of the profession and as most of them have not been in general practice for years and some of them never in family practice at all, there is a continued cry going up from the rank and file of the profession for more direct representation upon these bodies and more sympathetic and intelligent action upon the questions of vital importance to the practitioner.

Even at the recent annual meeting of the Polyclinic, the question came up in the shape of a vigorous demand for larger representation upon the Council, whose twenty members it was alleged included only one actively and three nominally engaged in practice.

Dr. William Selby Church has been reëlected president of the Royal College of Physicians in accordance with the unwritten law of that body in regard to second terms. The death-roll of the year was read by the President, and included such well-known names as Sir William Roberts, Sir Richard Thorne-Thorne, and the Reverend William Hicks (Bishop of Blomfontein). This, with the statement that the finances of the College are in a far from satisfactory state, gave rather a gloomy cast to the proceedings, but this was lightened somewhat toward the close by the ancient custom of carrying round a silver bowl filled with new silver coins (half-crowns) in small envelopes in payment of the attendance-fee of the members, and also by the, to transatlantic eyes, almost farcical announcement that a special telegram had been sent to the Prince of Wales congratulating him on his escape from assassination, His Royal Highness having recently been elected an Honorary Fellow of the College for some heaven-born reason.

The old and the established, no matter what its demerits, dies hard in England. It is reported upon apparently good authority that even today in London, the model sanitary city of the world in many respects, there are still houses whose sewage is conducted into cesspools dug out of the soil directly beneath them. One or two prominent restaurants in the "City," the central business part of London, are said to be in this predicament and the effect of the emanations upon the health of their employees is said to be most noticeable. The effect upon the customers could be but slight in any case, but what of the food and cooking utensils kept over night in such places? The average cellar-restaurant or hotel kitchen is often a gruesome place at best without any sewage-fumes as an addition to its charms. The charge ought certainly to be rigorously investigated.

It is gratifying to note that the report of the Saturday Hospital Fund for 1899, just issued, shows, in spite of the enormous claims of the war, an increase of nearly $5000 over the total for 1898, the entire sum being a little more than $100,000. Still better, the abandonment of personal street-collecting for the Fund, which was coming to be regarded almost in the light of an annoyance, has not resulted in anything more than a most trifling diminution of the amount collected, hardly $600 as between this year and the last one of the active collections.

The death of Sir William Priestly removes from the stage a figure whose prominence may be said to have been even greater outside of the profession than within its circle. Born of a family whose name stands high in the annals of science, a great-nephew of the famous discoverer of oxygen, of commanding presence and winning address, he had every natural endowment for success. And his success was largely of a personal rather than a purely scientific or literary character. The actual amount of his contributions to medical literature or progress was small in proportion to his prominence alike in practice, in Parliament, and in social circles. For years he had one of the largest and most fashionable consulting obstetrical practices in London, royalty itself being included in his clientele, which left him little leisure for writing or original research. He was, however, a prominent member of the staff of Kings College as consulting physician and professor of midwifery, and examiner in midwifery to the Royal College of Physicians and to the University of Cambridge and President of the Obstetrical Society, so that his activity in what might be termed the executive duties of the profession was great.

By a curious parallelism with Lord Lister, although born in England, he won his first reputation in Edinburgh where he was for three years in close association with Sir James G. Simpson, to whose tireless friendship and powerful influence much of his earlier success was due. It was largely upon his recommendation and vigorous championship that the young obstetrician was elected to the vacant chair of obstetrics in Kings College, shortly after he came to London, over the heads of two junior assistants and graduates of the College, who, by the sacred unwritten law of the London schools, considered

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that the only choice of a candidate lay between them as Kings men. The skill with which Priestly soothed the irritation and outraged sense of propriety due to the "profanity" of his election, was a high tribute to his tact and gifts as a judge of human nature and manager of men, to which, indeed, his permanent success in practice was chiefly due, while his cleverness and fluency as a lecturer justified his appointment, so that he soon became personally popular with his colleagues, and on his resignation of the chair after only three or four years' occupancy, due in part to a severe attack of diphtheria and its sequelæ, he was unanimously elected consulting physician to the Hospital.

Although a Conservative all his life he was knighted upon the recommendation of Mr. Gladstone in 1893, and three years later was elected to Parliament as the representative of the Universities of St. Andrews and Edinburgh, one of the "blue ribbons" of scientific and literary fame in England. His work in the House was not of a prominent or highly public character, but his influence upon legislation, particularly that pertaining to the promotion of the public health was most useful and the profession was well represented by him. His death leaves a vacancy in Parliament which will probably be filled by another medical man, and Sir James Crichton Browne is prominently mentioned for the position.

TRANSACTIONS OF FOREIGN SOCIETIES.

French.

COMPULSORY NOTIFICATION OF PNEUMONIA AND BRONCHOPNEUMONIA — ACTINOMYCOSIS DURING THE PAST TWO YEARS—MOSQUITO-THEORY OF MALARIA NOT YET SETTLED—CHEYNE-STOKES RESPIRATION DURING SLEEP AS A SIGN OF COMMENCING CEREBRAL ENDARTERITIS.

AT the Academy of Medicine, March 20th, GRANCHER urged that pneumonia and bronchopneumonia should be placed on the list of diseases of which notification is compulsory, because they are diseases which are always contagious whether occurring at the time of an epidemic or at other times. In case of these two diseases, and in case of tuberculosis, disinfection can render the greatest service, because the agent by which they are transmitted preserves its virulence for a long time and is relatively easily destroyed by boiling or by chemical means. With measles, for example, the reverse is true. It is only contagious during the period of invasion and ceases to be so when the eruption is well out. Hence disinfection is practically useless in cases of measles unless complicated by bronchopneumonia, while it would be of the greatest value in pneumonia, bronchopneumonia and tuberculosis.

VALLIN said that in the present state of science one is not justified in asking compulsory notification for pneumonia and bronchopneumonia, unless an epidemic occurs or a form of these diseases which is markedly contagious—the virulence of the pneumococcus being exalted, as it were.

LEREBOULET objected to compulsory notification because one rarely sees instances in which disinfection would have prevented an attack of pneumonia, and also because many towns are without the means of proper disinfection.

After further discussion, April 3d, the Academy adopted the following resolution: "The Academy is of the opinion that the time has come to place *infectious* pneumonia and bronchopneumonia on the list of diseases of which notification is compulsory."

PONCET spoke at the meeting held March 27th of the cases of actinomycosis which were on record as occurring in France during the past two years. One should not make the mistake of relying upon the microscope for a diagnosis of this disease. The true diagnosis is a clinical one. The following symptoms are characteristic: A hybrid aspect, suggesting at once neoplastic and inflammatory lesions; slow and capricious growth, with cicatrization of old fistulæ in the immediate neighborhood of recent or extending lesions. Particularly on the face and neck, a diffuse induration, usually very painful, and muscular rigidity as soon as the superficial muscular planes are involved, and the absence of lymphatic enlargement, even although there are numerous sinuses and ulcers, are distinguishing characteristics. Of 26 cases reported, the disease occurred 21 times in the face and neck; twice in the cecal region, and once each at the umbilicus, anus, and in the pleural cavity. Inoculation invariably from an ear of wheat or the débris of cereals, almost always took place through the digestive tract. The progress of the disease was slow—3 months to 6 years—and often the parasites could not be found by microscopic examination until sought for many times. The termination of the disease was 15 times mentioned. Five patients died, 8 were well at the time of report, and 2 had suffered relapse. Surgical intervention did not appear indispensable. It should be confined to a simple incision, with scraping or cauterizing the sinuses. Iodide should be given internally. Eucalyptus has been recently highly praised, but Poncet said that he had not seen it accomplish any good result.

LAVERAN discussed the mosquito-theory of malaria, which he said was in harmony with many of the facts but not all of them, and to which there are some objections. For example, malaria is unknown in certain regions where mosquitoes flourish, while it occurs in some places where there are no mosquitoes. Observers are not agreed as to the method by which the mosquito transmits the parasite. If some experimenters have succeeded in producing malaria by the bite of a mosquito which had previously sucked blood from a malarial patient, a far greater number of such experiments have failed. The public should be impressed with the idea

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that the larvæ develop in stagnant water and that any unnecessary stagnant water should be drained off, and the mosquitoes in the remainder should be killed by coal-oil or tar poured upon the surface of the water.

At the Medical Society of the Hospitals, March 16th, RABE spoke of the occurrence of Cheyne-Stokes' respiration during sleep in a patient whose kidneys acted normally during life and were shown to be sound at autopsy. The Cheyne-Stokes respiration was due to cerebral arteriosclerosis, combined with cardiac asthenia; and when it occurs under such circumstances it may safely be regarded as diagnostic of commencing arteriosclerosis.

SOCIETY PROCEEDINGS.

THE NEW YORK COUNTY MEDICAL SOCIETY.

Stated Meeting, Held Monday, March 26, 1900.

The President, George B. Fowler, M.D., in the Chair.

Dr. Clarence C. Rice read a paper on "Some of the Reasons Why the Surgical Treatment of Nasal Disease Has Been Placed upon a Conservative Basis." (See p. 641.)

Therapeutic Cycles in Laryngology.—In the discussion Dr. Beverley Robinson said that just as there are cycles in the therapeutics of most diseases, so there have been in the treatment of nasal affections. Twenty years ago Dr. Robinson insisted that the diathesis underlying certain manifestations in the nose was frequently much more important and needed treatment rather than the nasal disease itself. The constitutional condition of the patient, he urged, was the cause of the nasal symptoms and it was only by improving this that any permanent relief could be obtained. Although many changes have come in rhinology during the last twenty years, there seems no reason to change this opinion except, if possible, to emphasize it more strongly than ever. There is undoubtedly more danger in operations upon the nose than has been thought. Not only is there a certain amount of immediate danger, as reported deaths show, but there is a large risk of serious after-results from useless operations. Pathways for the entrance of germs are frequently provided by the mutilating effects of operations, and the physiological function of the nose as the gateway of the respiratory tract is often so interfered with that pulmonary affections become much more frequent than before. There is still a limited field for surgery in the nose, but it must be remembered that many of the operations done so thoughtlessly are of considerable moment and demand for their proper accomplishment a previous surgical training. The entrance of a number of men into laryngology and rhinology without previous surgical training has undoubtedly hurt the surgical side of the specialty. The first principle of all medical treatment *non nocere* has only too often been flagrantly violated. Many a patient could have endured much better the nasal condition from which he was suffering than he can the results of operation that was supposed to relieve his symptoms. An occasional feeling of fulness in the nose is a good deal easier to bear that the scabs and constant dryness, with consequent discomfort, which will exist in the nose so persistently as the result of mutilating operations upon the nasal mucous membrane.

Specialist and Family Physician.—Dr. Robinson hopes to live long enough to see the time when the general practitioner will control the specialist and not only counsel his being called in consultation, but say how far he shall go in the application of his special therapeutic measures to the patient for whom he is called. As it is now, the practitioner among the better classes is little better than a soup-ladle, dishing out patients from his family practice for the various specialists. This is undignified and the time will come, and that before very long, when the family practitioner will resume all his old-time importance and then the mistakes that specialists continually make in carrying their fads too far will no longer be possible.

Dr. W. C. Phillips said that a little knowledge is a dangerous thing in any branch of medicine and that it has been particularly hurtful in rhinology. Specialists ready-made in a few weeks have considered that they were capable of judging of nasal conditions without reference to other parts of the body and mistakes have necessarily followed. Experienced workers in the nose have long since agreed that swollen turbinate bodies or a congested septum are not necessarily surgical conditions, but are often only symptoms of affections in other parts of the body. The local treatment of them will necessarily be unsuccessful in the end, although it may seem to give temporary relief. The only rational treatment is the therapeusis of the cause of the symptoms in the organs that are primarily affected. No specialist can hope to succeed unless he has been a general practitioner for a long time.

Constitutional Treatment.—Patients are often better freed from respiratory difficulties by a calomel purge than by any local measures, however well planned these may seem to be. Fortunately, patients are beginning to understand that symptoms in the nose do not always indicate direct local treatment. It was the custom to have patients come to the rhinologist with the remark that they wanted to have their noses bored out. This expression is no longer heard as frequently as it used to be, and the fact points to a very sensible change in the opinions of the laity with regard to nasal symptoms. The most important constitutional faults that give nasal symptoms are rheumatism, gout, and the uric acid diathesis. The most potent cause of nasal disturbance in general is digestive trouble.

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Prompt relief of many a congestion and even of a certain amount of hypertrophy is frequently obtained by treatment of the digestive symptoms.

Direct Causes of Nasal Symptoms.—Dr. Rice's suggestion as to the influence of the use of alcohol and tobacco in excess as frequent causes of nasal symptoms is a most important and timely one. They are undoubtedly the cause of many conditions that have usually been attributed to quite other etiological factors. Cold in the head, that scapegoat for most acute nasal conditions, is usually not due to exposure to drafts. Patients who are the most careful with regard to exposure to cold acquire exacerbations of their nasal disturbance for very slight reasons. It is evident that other factors besides mere exposure to cold enter into the etiology of these nasal disturbances. The auxiliary causes usually belong to the realm of bacteriology, and it is here that we must look for the cause of acute rhinitis and pharyngitis which often leave their marks upon the nasal mucous membrane in the shape of chronic changes. Overwork and fatigue from overexertion frequently disturb the circulation and set up certain trophic nerve influences that become prominent causes in the production of nasal symptoms.

Field for Operation.—Dr. Robinson said that a number of young rhinologists would surely find in his nose indications for operating and some of them had even suggested it. This is not an unusual experience among rhinologists and it emphasizes the necessity for more conservatism in suggesting operations. There is a distinct field for operative surgery. Conservatism is not the only watchword. To treat nasal conditions without operative interference is surely to lose the great benefit that can be derived from surgery under appropriate circumstances. Nasal surgery requires, however, experience, skill, and training, just as does surgery in other parts of the body. If the speciality of the nasal surgeon is looked at in this way there is a great field for his labors.

Diathesis.—Dr. Quinlan said that the causes of nasal and laryngeal disease, if considered rationally, lead one far beyond what can be seen in the nasal speculum or the laryngeal mirror. In the talk about diathesis this evening the most important constitutional conditions that come under this head, namely, syphilis and tuberculosis, have been omitted. Constitutional conditions always influence and very often are the sole cause of nasal symptoms. It is not an unusual thing to have a parent bring back a child dissatisfied after the operation for adenoids. The apathetic expression, the mouth-breathing, the tendency to open mouth with its foolish look, something of the nasal speech, and other symptoms that it was promised would be cured by the operation still remain. The cause that led to the adenoids originally has not been eliminated and the symptoms that were made more marked by the presence of the pharyngeal tumors do not entirely disappear after removal of the latter.

The importance of water without and water within is becoming ever clearer in our modern life and must especially not be forgotten by the nasal specialist. In our dry superheated rooms conditions of the nasal mucous membrane develop that do not require special treatment, but demand more moisture in the air we breathe. Air and exercise are potent factors for the relief of nasal symptoms. A cold bath will often relieve rhinitis by causing a diversion of the blood supply into the cutaneous capillaries. It must be remembered that the turbinal tissue in the nose acts as the vestibule of the lungs to keep out impure and irritating air. Its function must not be hindered. If this great filter of the respiratory system is removed not only nasal symptoms will be much more prominent, but also the tendencies to pulmonary disease will be much increased. Conservatism must be the watchword of the operating laryngologist. It has taken a good many years to reach this standpoint. Now the lesson must not be lost. "Knowledge comes, but wisdom lingers."

Excessive Smoking.—Dr. Emil Meyer said that while excessive smoking undoubtedly does harm, the objection to the use of tobacco may become a fetish. Atrophic conditions of the nasal and pharyngeal mucous membrances occur also in females and in that class of females who do not smoke. In the same way alcohol is undoubtedly a serious factor in certain laryngeal conditions and yet the taking of moderate amounts may do no harm. There are extremes in the condemnation of alcohol and tobacco to which laryngologists should not go.

The electric cautery can never be condemned enough. The inventor of electric cauterization methods for the nose has undoubtedly a great deal to answer for. A distinguished specialist in rhinology said not long ago that the main part of his time was occupied in breaking down the synechiæ of the nasal mucous membrane that had been left by electric cautery in the hands of the would-be rhinologist and the general practitioner. The galvanocautery certainly has a very limited place in the therapeutics of nasal diseases. The operative field for the specialist in rhinology must concern especially the treatment of the accessory sinuses of the nose. These the general practitioner can scarcely be expected to touch. He may put his patient into good general condition in order to be sure that the nasal symptoms will not disappear when this is done, and then, if there are symptoms that seem to implicate nasal sinuses, he should send his patient to a reliable specialist. For the specialist, under these circumstances, the best advice is Davy Crockett's maxim, "Be sure you're right, then go ahead."

Surgical Technic.—Much more consistent results in the field of nasal surgery will uniformly be obtained if careful precautions are taken to secure as far as possible an aseptic field for operation and the most thorough surgical care during and after the operation. It seems a good deal to

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demand an assistant and a nurse for a simple adenoid operation. It looks like needless expense, but, after an experience of years with never a septic result with such accessories, Dr. Meyer is thoroughly convinced that the additional help is well worth the while. Dr. Goodwillie said that respiration is more important than food. If respiration is to be properly continued the mucous membrane must function normally. Mucous secretion must have a chance to get out, otherwise irritative conditions will surely develop. Dr. Goodwillie has, then, the very greatest respect for this important tissue. He saves all of it that is possible and hesitates as much to remove a bit of it as he would to remove any portion of visible tissue whose loss would be noticeable. Serious mistakes have been made in the past in removing this mucous membrane. Its removal is always followed by serious results. A good deal of bad surgery has been done in the nose during the development of modern rhinology. Adenoids must be removed, but only the hypertrophied granular tissue and not an indefinite amount of mucous membrane lying all around them. If other tissue is removed, harm will always be done. There have even been cases in which lasting injury has been done to the pillars of the fauces during an adenoid operation.

Local and Constitutional Treatment.—Dr. Rice in closing the discussion said that it must be remembered that it may be necessary to remove an occlusion of the nose, even if it should come from the liver or the lungs or from some digestive disturbance. This is especially true where the ear is interfered with. Constitutional treatment may be so slow in its action that important structures will be damaged before we are able to prevent by this means the development of lasting pathologic lesions in them. A great step in advance has certainly been made in rhinology in recent years inasmuch as we have done away with the use of nitrate of silver, zinc and copper solutions, which used to produce serious irritation of the nasal mucous membrane. When catarrhal conditions exist along the digestive tract the rhinologist can be of the greatest service to the general practitioner by relieving the catarrhal conditions of the upper part of the mucous tract. Disturbances of secretion in these parts react to produce reflex pathologic conditions in the stomach and other parts of the digestive tract.

Requisites of the General Practitioner.—Dr. August Caillé said that while the family practitioner used to be the all-important member of the medical profession he has now lost most of his prestige. The fact is that no one mind can contain all medicine and the all-round medical man is swamped by the amount of new material which is constantly accumulating on all sides in the realm of medicine. Even the specialist finds it hard to keep up in his own branch. If he knows but one language the difficulty is great enough; if he can read several then he realizes the futility of trying to absorb everything. The general practitioner has now become, in wealthy families at least, little more than the master of ceremonies in the direction of the health of the household. He diagnosticates in general the condition that exists and directs what specialist shall be applied to for treatment. The details of the treatment are carried out by a trained nurse. Medicine seems to many a field for the gaining of a good and easy livelihood. As a matter of fact, in recent years the profession has become overstocked. This has precisely the same effect as does an overstocked market. There is a drop in the prices to be paid and this will cause an inevitable diminution in the supply. There is not room enough for all who enter medicine. In the midst of this overstocking of the medical market there comes up this important question: Is there a place for the general practitioner or is his genus doomed to extinction? There are two reasons why the general practitioner, as such, will not disappear from the field of competition in medicine.

Future of the General Practitioner.—The two reasons why the general practitioner will live on is, first, that many people refuse to give him up. And, secondly, the public has come to realize during recent years the danger of immature specialism, and has taken to heart the important lesson that a large amount of the specialist's operative work is harmful or at least ill-advised. The family practitioner will save these mistakes by his good advice and so preserve his *clientele* from specialistic fads. The general practitioner may elect to develop for himself certain features of his work. He may, as it were, specialize, first, on physical diagnosis, second, on laboratory methods, third, on regional diagnosis, fourth, on dietetics, hygiene, hydrotherapy and physical methods of therapeutics, or fifth, on minor surgery. It is Dr. Caillé's opinion that he should not handle obstetrics. In the matter of physical diagnosis he should study especially the possibilities of information that may be gained from the careful examination of the various orifices of the body. He may not, perhaps, be expected to use successfully the opthalmoscope or the cystoscope, but he certainly should be able to gain all ordinary information from the nose and throat and from the examination of the stomach-contents and from the use of specula. Patients cannot be expected to pay two fees for the diagnosis of conditions that involve no more special knowledge than these procedures. The diagnosis will certainly be expected of the general practitioner.

Obstetrics and General Practice.—There are two reasons why the general practitioner should not take obstetrical cases. First, they involve a considerable amount of night-work, and secondly, as general practice brings the practitioner in contact more or less with contagious diseases, this makes him a source of danger for the puerperal patient. The busy practitioner cannot do his patients justice if besides attempting day-work he stays up at night. His hysterical haste

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is not paid for sufficiently and sins of omission inevitably ensue. The compensation that the practitioner would obtain for his obstetrical cases can be replaced by what he obtains for minor surgical practice. The simon pure medical practitioner has no place in future medicine. If a medical man objects to the use of the knife, his only hope is to drift into some bloodless specialty.

Practical Considerations.—A certain amount of laboratory work is very important for the general practitioner and will be even more so in the future. For this he no more needs a private laboratory than he needs a private livery-stable to keep his horse in. A great change will have to come over medical teaching in the very near future. An amount of valuable time during student-days is wasted in the study of valueless drugs that are still retained in the materia medica. The much more important theraputic measures, mechano-, hydro-, and dieto-therapeutics are unfortunately neglected. These mechanical and physical methods, with a few drugs, must constitute the armamentarium of the practical physician. In order to keep up with the progress of medicine, the practitioner must do post-graduate work. This is more necessary for the country practitioner than for the medical man who lives in the city and who is more in touch with the progress of medicine. For post-graduate laboratory work, Europe is still ahead of us. Practical clinical post-graduate work can be done better here in this country. All medical men should begin their careers as general practitioners. Dr. Caillé does not hesitate to predict that the general practitioner of the future will be especially a diagnostician, a sanitarian and a minor surgeon.

Few Successful Physicians.—Dr. Walker said in discussion that he had been informed by the dean of a prominent medical college that only one out of every five medical men who graduate succeeds in making a living exclusively from his profession. There is no doubt that the profession is being overcrowded. Dr. Caillé's opinion that the practioner of the future must devote his attention to minor surgery is a very suggestive thought. At least sixty per cent. of the ordinary young man's practice will come from this source

Dr. Edebohls said it is important that the general practitioner should assure himself that his patient needs a specialist's care before he sends him to the specialist. Only the other day a puerperal woman was referred to him for curettage and he found absolutely nothing the matter with the sexual organs, but did find an acute pericarditis. It would have been extremely sad to have attempted operation in this case for death on the table would almost certainly have resulted from the anesthetic.

Dr. Knopf said that there is undoubtedly a great waste of time in the study of useless drugs. Much more time should be devoted to hygiene and diet than at present. The general practioner should be able to detect incipient tuberculosis and treat it. For this he may have to examine the members of predisposed families every six months. The procedure would certainly be thoroughly justified if by it we were able to keep in abeyance the great white plague of the north.

NEW YORK ACADEMY OF MEDICINE.—SECTION ON LARYNGOLOGY AND RHINOLOGY.

Stated Meeting, Held Wednesday, March 28, 1900.

Wendell C. Phillips, M.D., Chairman.

Dr. Coakley presented an improved transillumination instrument. The instruments at present in use for this purpose are very hard to sterilize thoroughly. Dr. Coakley provides a glass tube that fits over the electric lamp and goes somewhat beyond it. It is this tube alone that comes in contact with the patient's mouth. It can easily be removed and thoroughly sterilized by boiling. This glass covering serves besides the very useful purpose of keeping the transilluminator cool enough to allow of its presence in the mouth for a considerable time. Glass itself is a poor conductor of heat and besides there is a non-conducting layer of air between the lamp and the outer glass tube, which further prevents any disagreeable heating of the outside of the instrument.

Dr. Levin presented a case of atrophic rhinitis at the age of twelve years. The patient has now been under his observation for some four years. The condition was well marked at the beginning of that time and has progressed but slightly. By careful cleansing the patient is kept reasonably comfortable, although otherwise the affection seems to yield very little to treatment.

The subject of the evening, the discussion of atrophic chronic rhinitis, was then taken up.

Etiology of Atrophic Rhinitis.—Dr. Frank H. Bosworth said that the opinions on this subject expressed in his paper at the Congress in London, some twenty years ago, remain still substantially unchanged. He there presented some specimens from the mucous membrane of cases of atrophic rhinitis, which had been obtained by the snare—a perfectly unjustifiable procedure, except for the scientific value of the observations made possible by it. At that time he expressed the opinion that chronic atrophic rhinitis is a development from purulent rhinitis of long duration. Before that the general opinion had been that atrophic rhinitis develops somewhat as does atrophic cirrhosis of the liver. It was considered that hypertrophic rhinitis is the primary stage. Only one case of such a progression has ever been recorded. If that is to be accepted it is unique in medical literature. Inflammatory conditions in the mucous membrane do not, as a rule, lead to the production of connective tissue, but only to an increase of secretion. In children the process is confined to the epithelial layer and

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proliferation of the epithelial cells takes place so that the original mucous secretion becomes cloudy and almost purulent in character. The process then extends into the simple and compound follicles of the mucous membrane with a like involvement of their epithelial cells. A deposit of connective tissue then takes place around the follicles. Like all connective tissue this has a tendency after a time to contraction. After a year or two, sometimes three or four, of excessive secretion the secretory fluids become thick and inspissated. They form thick crusts and their contraction interferes by pressure with the blood-supply. Between the contractile connective tissue within the mucous membrane and the crusts on its surface the blood-supply to the turbinated bodies is very much interfered with. The mother of bone, the periosteum in this region suffers and the result is a failure of the turbinated body to develop properly.

Origin of Symptoms.—Theories almost without end have been very ingeniously constructed to explain the various symptoms of the disease. A special form of secretion has been suggested as the cause of the crusts, or a special form of bacillus that causes the mucous material to become inspissated. A number of theories have been advanced to explain the disagreeable odor also. To any one who uses common sense, however, this does not seem very hard to explain. Animal matter, that is, albuminous material of very unstable chemical equilibrium, is retained for twenty-four to forty-eight hours in the nose. It would be surprising, then, if it did not decompose and smell. Chronic atrophic rhinitis usually commences in childhood at five or six or seven. After five to six years of progress, crusts are formed and then the odor begins to be the most notable symptom. Amelioration of all the symptoms very frequently takes place at the age of forty, or shortly thereafter. Dr. Bosworth has seen but one case of fully-developed atrophic rhinitis chronica in a girl of twenty-one that was completely cured. The rhinologist is in a much better position, therapeutically considered, at present with regard to the disease, than he was some years ago. All of the symptoms can now be so controlled that the patient has comparatively little discomfort, while the annoying smell, so offensive to friends, can be so overcome as to be unnoticeable.

Recent Contributions to Etiology and Pathology.—Dr. Jonathan Wright discussed some of the recent theories brought forward by German authorities as to the etiology of chronic atrophic rhinitis. The subject has been approached from the standpoint of ethnology and craniology. It has been pointed out that it is especially the flat type of skull that is liable to be affected by this atrophic condition of the turbinate bones. The form of skull has a definite relation to the form of the nasal passages and this latter to the development of atrophic conditions. In Switzerland it has been noted that in 97 per cent. of patients ozena occurred in individuals who had more than the average width of face. In a word, fetid rhinitis occurs only in the broad-faced. It has also been noted that there is a congenital metaplasia of the epithelial cells of the nasal mucous membranes. Instead of cylindrical epithelium, which is normal to this part, squamous epithelium occurs as the result of congenital influences. Individuals so affected later develop atrophic rhinitis. This tendency to squamous epithelium within the nose occurs especially in the broad-faced type of skull, in which the more open nostrils and consequent exposure of the epithelium to the air lead to its taking on more the character of the neighboring skin surface. These observations on skull types and their influence on the development of atrophic rhinitis have been made so far only in Switzerland. As is well known that the brachycephalic type of skull prevails very generally in Switzerland. It would not be surprising, then, to find that a large proportion of people afflicted with any ailment there would be of the broad-faced type. It is doubtful if a corresponding series of observations made, for instance, in the Iberian Peninsula where the dolichocephalic type of skull prevails, might not give directly opposite result. Meantime this theory of the etiological connection between the type of skull and the development of atrophic rhinitis adds another and a very interesting phase to the discussion of the etiology of the affection. We have heard it said that atrophic rhinitis chronica develops from hypertrophic rhinitis, or from purulent rhinitis; that it occurs in people with high palates, or, according to others, in people with especially low palates. Bacteriology has put in her claim to explain the origin of the disease, and the pseudodiphtheria bacillus as an etiological factor had for a long time quite a vogue. Of late it has been claimed that the disease is originally a neuropathy, that is, an atrophic neurosis. Evidently it is not yet possible to decide what the etiology of the disease is. It is probable that most of the factors mentioned have some influence, while no one of them is the exclusive cause. It must be borne in mind in discussing the etiology of chronic atrophic rhinitis that the affection preponderates in women. At least 70 per cent. of the patients, according to a large number of statistics, are of this sex. It has been pointed out that women have not only actually, but relatively, a smaller nose than men. This has been taken to indicate that it is especially smallness of the nose which predisposes to the development of the affection. Hereditary syphilis has been claimed to play an important part in the causation of the disease. Fournier has now pointed out that, as the result of hereditary syphilis, not only do various deformities of the nose occur, but patients are apt to be born with a relatively smaller nose than is normal, though the organ may be perfectly regular. This question, however, needs further observation before any decision as to the value of this factor in the etiology of the disease can be made. One thing is certain, the bacteriological factors that a

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few years ago were considered so prominent in the etiology of chronic atrophic rhinitis are now, in the words of a distinguished statesman, sinking into "innocuous desuetude."

Dr. Clarence C. Rice said that dry mucous membranes may exist for long periods and yet not be due to chronic atrophic rhinitis. All dryness of the mucous membranes of the nose used to be diagnosed as atrophic rhinitis. We now know that an absence of secretion may exist for years, while normal mucous membrane remains and no true atrophy develops. This absence of secretion is often due to general malnutrition. It is especially seen in dispensary practice, because poor patients are liable to be living under conditions of diet, overwork, absence of good air and sanitation that make profound malnutrition very frequent. Another form of dry rhinitis occurs without atrophy in fat, phlegmatic people, especially those who use alcohol to excess. It is very constantly found in mouth-breathers. This dry rhinitic condition may be cured by discontinuing the alcohol and reducing the weight of the patient.

Differential Diagnosis.—Functional collapse of the mucous membrane, with absence of secretion and an anemic appearance, occurs especially in young adults of the poorer class, whose general condition shows that they are not in the best of health. True atrophic rhinitis occurs especially in children of any class, rich or poor, and the patients are frequently in good general health. In functional collapse the typically-wide nostrils of true atrophic rhinitis do not exist. In atrophic rhinitis there is destruction of the turbinate bodies and the mucous membrane covering them looks thin and granular, and usually has crusts on it. The extremely fetid odor is a very characteristic symptom. In simple dry rhinitis the mucous membrane has an anemic look, but does not seem degenerate and, while the breath may be unpleasant from general disturbance of the digestive tract, it is not as offensive as in true ozena. The middle turbinate body is very often enlarged in atrophic rhinitis. This enlargement does not occur in functional collapse. The milder condition does not usually end in atrophy. No heroic treatment is needed for functional collapse of the nasal mucous membrane. As soon as the general health can be improved relief will be experienced from the symptoms noticed and the appearance of the nasal mucous membrane will alter for the better.

Hygienic and General Treatment.—Dr. Delavan read for Dr. Thomas R. French of Brooklyn a paper on this subject. Under the term hygiene Dr. French does not include the precautions necessary to avoid nasal affections due to occupation. For these very little can be done except a change of occupation. The main lesson to be learned in the hygiene of the nose is how to cleanse and how not to cleanse the nasal mucous membrane in chronic atrophic rhinitis. Rhinologists differ widely as to the etiology of the disease, but they are agreed that the indications are to cleanse the nostrils locally, to stimulate the mucous membrane and to destroy the odor. The modern syringe is apt to be very unclean, and while the best-intentioned efforts are being made for the cleansing of the nostrils, the condition of the syringe may render the attempt nugatory. Some time ago, at Dr. French's suggestion, Dr. Van Cott drew up into a nasal syringe, supposed to be ordinarily clean, some sterile bouillon and allowed it to remain for a few minutes. The bouillon was then allowed to stand for a time and some of it injected into the peritoneal cavity of a guinea-pig. The animal died in eighteen hours from septicemia. In the peritoneal fluid a short bacillus and a micrococcus were found. Syringes that are as liable to contamination as this should not be used. Dr. French has recently had made a syringe the plunger of which is made of asbestos. This can be thoroughly sterilized by holding it over an alcohol lamp for a few minutes. This makes the syringe much less liable to carry infective material than with the old form of plunger, which practically cannot be sterilized. Dr. French likes the spray as least as well as the douche under all circumstances, and he considers that there is less danger to the ear from the use of the former. All atomizers should be boiled before use even when they are presumably new. Frequently atomizers are used once by a patient and then returned to a drug store to be exchanged. There is no guarantee, then, that because the atomizer is direct from the druggist's it may not be infected with micro-organisms. Strong antiseptics should not be used in the nose, and alkaline solutions are better borne than neutral or acid ones. For the dry feeling which causes so much discomfort, some oily solution should be used. This is only palliative in its effects and should be used intermittently. Its constant employment will lead to the nasal mucous membrane giving up entirely its function and will eventually make the condition worse.

The use of antitoxin for chronic atrophic rhinitis had many strong advocates not long ago, but they are constantly dropping out. Where tuberculosis exists, care should be taken to treat the patient for this condition and improve the general health as much as possible. Anemia or any dyscrasia should be appropriately treated. A change of climate commonly does good, notwithstanding the fact that a moist atmosphere is usually the most comfortable for the patient, the seashore is not always the best place for him. Quinine, iron and strychnine should be used freely where the general health is impaired. Inunction with oil often seems to be an excellent method of improving the general health where there has been considerable loss of weight. With regard to the underclothing, the use of linen mesh seems advisable. This underwear prevents to a great extent the tendency to take cold, often so noticeable in these cases. There still remain many defects in our treatment of chronic atrophic rhinitis, but we can control the fetid secretions almost entirely now and so make pa-

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tients much more comfortable than they used to be.

Electrical and Mechanical Treatment.—Dr. Bryson Delavan said that mechanical treatment consists in the use of tampons, plugs, bougies and the curette. Gottstein's suggestion of the use of non-absorbent cotton was undoubtedly a step in advance in the treatment of chronic atrophic rhinitis. Certain drugs may be employed with advantage on the tampon and the medicated material gives better satisfaction than the plain. The use of the curette is justified where areas of hypertrophy of the mucous membrane exist besides the atrophic condition. The hypertrophic patches are apt to occur especially at the upper part of the septum. The galvanocautery may be used for the same purpose as the curette; for any other purpose it is sure to do harm, not good.

Preventive Treatment.—There is no doubt that chronic atrophic rhinitis is less common than it used to be. The reason for this appears to be that nasal disease is now treated more effectually and patients apply for treatment for nasal symptoms earlier than they used to. Chronic atrophic rhinitis is apt to follow the exanthemata. Especially is this so where obstruction of the nose existed before the occurrence of the eruptive fever. The nasal passages should be very carefully watched, then, during the course of the exanthemata and prompt relief afforded to any nasal obstruction that may occur. This method limits the development of chronic atrophic rhinitis and may prevent it entirely in cases where it would otherwise occur.

Dr. Charles H. Knight said that chronic atrophic rhinitis is one of the diseases for which a great many remedies have succeeded each other year after year. Its treatment is not hopeless in all cases. The affection does not depend only on local conditions, but is often due to a vicous constitutional state, which can be improved by drugs. Where syphilis, or struma, or frank tuberculosis, or the rheumatic or gouty diathesis, or alcoholic bad habits exist, these must be brought under the influence of treatment as effectively as possible and the result will always be an improvement in the nasal condition at least as far as symptoms are concerned. The most distressing symptom is the ozena. This symptom, it must be remembered, may also be produced by syphilitic processes, or by obstruction from deformity or from a foreign body. All of these are very tractable conditions if treatment be prompt. The diagnosis of chronic atrophic rhinitis should not be made, therefore, from the smell alone. A very careful examination should be made to decide that no other cause is at work. The smell in chronic atrophic rhinitis is not in proportion to the amount of secretion, nor to its character. The tissues in some cases seem to have an inherent odoriferous quality, which it is not easy to explain. In treating the ozena, the remedies employed should be already in solution. The use of dry powder in the nose requires the presence of enough secretion to dissolve it, before it can act effectively. This is putting extra labor on tissues that are already lowered in their physiologic function of producing secretion. Crusts that form should be removed with cotton on a probe after a preliminary softening by means of an alkali wash, or atomized oil.

The most useful drug in chronic atrophic rhinitis is menthol. It improves the quantity of the secretion, lessens the tendency to crusting and decreases the smell. A five-per-cent. solution will usually be borne very well at first and may be increased later on. The best fluid application is albolene. It should be used in the form of a spray. When used this way it is not necessary to warm the fluid beforehand. The process of atomization makes the solution cool, no matter how warm it may be originally. Formaldehyde is theoretically an excellent drug to use in chronic atrophic rhinitis. It should act as an antiseptic and as a deodorant. Employed in solutions of 1-5000 it has given good satisfaction. Even thus diluted, however, it sometimes produces irritation. This should be guarded against. It may be employed twice a day after preliminary cleansing with salt solution. Boroformalin is a very good form of the drug to use. Borolyptol has given very good satisfaction in recent years. The ozena is distinctly modified and in certain cases seems to have been practically completely overcome. Ichthyol has given very good results in chronic atrophic rhinitis. It is used in solutions of two to five per cent., the diluent usually being petrolatum. Its unpleasant odor, however, makes it objectionable. Very recently buminol has been recommended, because of its extraordinary antiseptic powers and its absolutely unirritating properties. It is besides an excellent deodorizer. All in all it is the most promising drug at present being used for this bothersome affection.

No operation should be done for the removal of tissue in chronic atrophic rhinitis unless obstruction exists. Where cirrhosis of the submucous tissue has already set in, the ultimate prognosis of the case is not good. At times, however, the development of this sclerotic condition may be prevented.

Some Bacteriology of Atrophic Rhinitis.—In the discussion Dr. Van Sant of Philadelphia said that he had examined 100 cases of chronic atrophic rhinitis in order to decide what bacteria were present. In all of them bacteria were found very plentiful. In 25 of them the pseudodiphtheria bacillus was present. In the first case examined bacteriologically the Philadelphia Board of Health reported that the patient had diphtheria and must be isolated, although he was an ordinary business man going about his avocation every day. There are signs in the general condition of patients suffering from chronic atrophic rhinitis which point to the fact that they are suffering from autointoxication. These toxins are absorbed from septic foci in the nose. Their presence in the circulation causes the sense of lassitude and neurasthenic unrest of which

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patients suffering from atrophic rhinitis so often complain. Improvement comes with the use of iron, fresh air, and general hygienic conditions.

Dr. Coyle said that the most useful drug in his practice is hydrozone. After that borolyptol. The best method of treatment seemed to be the insertion of plugs of gauze which are put in with a plug-placer and allowed to remain for twenty-four to thirty-six hours. The tampons themselves do more than any of the remedies that may be employed with them.

Dr. Freudenthal said that the main feature of chronic atrophic rhinitis is the dryness. The main reason for the development of chronic atrophic rhinitis so commonly in this country is the intensely dry air of our houses. In order that the nasal mucous membrane may be comfortable the relative humidity should be at least 60 per cent. As a matter of fact the relative humidity in the living-rooms of our modern houses is never more than 40 per cent., is often less than 30 per cent., and may in steam-heated houses be as low as 15 per cent. When dry air is breathed the mucous membrane keeps giving off moisture constantly. This increase of function finally leads to atrophy, although in the middle turbinate body which does most of the work hypertrophy is usually noticed. Vibratory massage has given the best results in Dr. Freudenthal's hands.

Dr. Douglas said that there are cycles of improvement in chronic atrophic rhinitis almost as in phthisis. It is very hard to decide, then, with assurance what drugs locally or internally used give good results. Two drugs are certainly always of benefit. Ichthyol which may be used in a fifty per-cent. solution, or rubbed in pure, after the employment of a cleansing douche. Ichthyol applications produce a serous exudate and they lead to the absorption of the leucocytic infiltrate. Very recently Dr. Douglas has seen carbon dioxide used under Dr. Achilles Rose's direction with extremely satisfactory results. For atrophic cases with extremely bad odor nothing is more effective. In dry cases with marked atrophy, it seems to do great good in making the erectile tissue more succulent.

Dr. Miles thinks that the etiology of atrophic rhinitis is due to two factors. First, there is imperfect development of the nasal mucous membrane as the result of congenital defect. This mucous membrane becomes a locos minoris resistentiæ. Bacilli attack this mucous membrane in youth and so bring on the atrophic condition. The treatment of the future will undoubtedly be instituted during the preliminary stage, that is some time from two to eight years of age. Ichthyol is the best remedy. It may be used in a twenty-five-per-cent. solution with vaseline or pure on a probe. Iodine internally often does distinct good in these cases, and its use should not be neglected.

Dr. Quinlan thinks that chronic atrophic rhinitis is becoming rarer because more care is taken of the nasal tissues in early life than used to be the custom. Children are brought for treatment as soon as the first symptoms of nasal trouble manifest themselves and so are saved the development of the incurable chronic condition. City children have not enough air and sunshine and are asked to apply themselves too much to their books. The constitutional conditions are certainly important in the development of most nasal conditions and especially of atrophic rhinitis.

Dr. Meyer thinks that after the exanthematic diseases atrophic rhinitis is especially liable to develop. It has been noted that adenoids disappear during an attack of one of the exanthemata. The atrophied condition of the glands of the nasal mucous membrane may be brought about in the same way. The most careful precautions should then be taken to prevent the development of chronic nasal conditions after these fevers.

WESTERN OPHTHALMOLOGIC AND OTO-LARYNGOLOGIC ASSOCIATION.

Held at St. Louis, April 5, 6, and 7, 1900.

The President, W. Scheppergrell, M.D., in the Chair.

The President opened the meeting with a paper on "The Rise of Specialism," in which he disproved the oft-repeated charge that specialisms in medicine are modern innovations. He cited historical data dating several centuries before Christ in which distinct references were made to specialists of the eye, stomach and the head. The essayist commended specialists in medicine, as they promote more detailed study and thereby lead to higher medical attainments.

J. W. Bullard, M.D., of Pawnee City, Neb., read a paper on "Two Classes of Eye Cases That Give a Great Deal of Trouble." Chief among them were those in which irritation and dryness of the conjunctiva persisted in spite of every attempt at refraction which had been made.

Edwin Pynchon, M.D., of Chicago, read a paper, entitled "Slight Irregularities of the Nasal Septum." The author advocated the removal or correction of slight irregularities of the septum when there were disturbances of the nasal functions on account of their presence. If later and larger developments justified their removal, the author thought their early removal was justified on the grounds of "A stitch in time saves nine."

C. R. Holmes, M.D., of Cincinnati, read a paper on "Foreign Bodies of the Orbit, with Report of Cases." About seventy cases were compiled from the literature by the author and three additional ones were reported by him. The most interesting and unique case was one reported by the author. It consisted of a knife-blade about 1-1½ inches long which had been in the orbit thirty-two years without causing much inconvenience. It was imbedded in a fibrous capsule and was but slightly rusted.

M. A. Goldstein, of St. Louis, reported two

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cases, *viz.:* (a) Primary Tuberculosis of the Ear; (*b*) Primary Tuberculosis of the Larynx. (*a*) The case had been operated on some years previously and had a recurrence some months ago, at which time Dr. Goldstein did the Schwartz operation. Bad symptoms developed a few weeks ago and he did the radical operation, since which time the patient has been doing well. (*b*) The second case was one of probably primary tuberculosis of the larynx, which came under the observation of the author about one year ago. At that time he was in a very serious condition; death seemed but a matter of a few weeks or months. The patient was growing greatly emaciated, and in response to the treatment administered had gained a fair degree of health, being able to attend to business. The diagnosis in the case is somewhat doubtful, but the author, having excluded lues and malignant growth, has made the diagnosis of primary laryngeal tuberculosis. Tubercle bacilli are absent and the tissue has not been examined microscopically.

Dr. Wm. L. Ballenger, of Chicago, read a paper on "The Physiologic Tests of the Organ of Hearing as Aids in the Differential Diagnosis of Lesions of the Ear." The author advocated the physiologic tests of the ear, including the range of hearing, as tested with the tuning-fork, Galton whistle, the Webber experiment, the Rinne experiment, the Schwaback and Bing tests, as important aids in the differential diagnosis of the lesions of the ear. They are of special importance in determining the location of the lesion. He suggested that in a general way the deeper the structure involved, the more pronounced the disturbance of hearing and the less probability of a cure. The tests were therefore recommended more for the purpose of aiding the surgeon in giving a correct diagnosis than for the purpose of aiding him in the treatment, which is often unsuccessful. Six cases were cited illustrating lesions of different kinds in the middle ear and labyrinth, in which the tests were used for the purpose of differentiating them. He recommended that the tests be made in all cases of ear disease in which there was marked deafness and tinnitus, both before and after the inflation of the tympanum. If this point is neglected the diagnosis may not be properly made. While the physiologic tests are not absolute guides to a correct diagnosis, they are, together with all other means of diagnosis, the most correct at the command of the aural surgeon and therefore should be invariably used.

O. J. Stein, M.D., of Chicago, read a paper entitled, "Symmetrical Osteoma of the Nose; Report of a Case." The author reported a very rare case of symmetrical or double osteoma of the nose, occluding the nasal chambers and extending to either side for a considerable distance, whereby the patient was given the typical frog-face appearance. Osteoma upon one side is rather common. This case was presented on account of its unique type and was reported with a number of other cases collected from the literature. No attempt was made to correct the deformity, as the patient is well advanced with tuberculosis, several other members of the family having died with the same disease.

J. O. Stillson, M.D., of Indianapolis, read a paper on "Removal of the Middle Turbinate for the Cure of Some Forms of Inveterate Eye Disease." The author read a very interesting paper upon this subject in which he reported his observations as to the relationship of nasal and eye diseases and the results he had obtained in allaying eye symptoms by the treatment of nasal conditions, more especially the removal of the turbinate.

Dr. Goldstein, as Chairman of the Local Committee of Arrangements, arranged for a museum of pathologic and anatomic specimens which, while not large, was extremely interesting and marks a new departure in this society.

Dr. M. A. Goldstein of St. Louis was elected president for the ensuing year.

REVIEWS.

The Treatment of Diseases of the Nervous System. A Manual for Practitioners. By Joseph Collins, M.D., Professor of Nervous and Mental Diseases in the New York Post-Graduate Medical School; Visiting Physician to the New York City Hospital. Illustrated by Twenty-three Engravings. Cloth. Pp. 602. New York: William Wood and Company, 1900.

Among the various books on nervous diseases this work stands out as promising to be one of the most useful to the general profession. The aim of the author is to present in detail to the general practitioner the best and latest treatment of diseases of the nervous system. This he has succeeded in doing, symptoms and etiology being secondary considerations, although etiology is presented fully but concisely, because of its relation to the conscientious treatment of the diseases.

The book is divided into three parts. Part I. treats of the causes and origination of diseases of the nervous system in general and of the prevention of these diseases. The chapter on general etiology is well worth reading and should be read by every general practitioner. It presents the subject in a comprehensive form, each factor being considered in detail. As to the rôle of infection, the author thinks that such diseases as beriberi, Landry's paralysis, and anterior paliomyelitis, which are thought to be due to some specific organisms, will be found, when these organisms are isolated, to be due in reality to bacteria which cause more common diseases in other parts of the body. In other words, he does not think that any disease of the nervous system is dependent on an

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organism that causes a specifically nervous disease.

Diseases of the nervous system due to syphilis are divided into syphilitic and parasyphilitic. The genuine syphilitic diseases are subdivided into: (1) Syphilitic disease of the blood-vessels; (2) syphilitic disease of the parenchyma of the central nervous system; (3) syphylitic disease of the coverings of the central nervous system, particularly the meninges; (4) syphilitic new formations of sufficient size to deserve the name of tumor; and (5) syphilitic neuritis, a condition that is rare, but whose actual occurrence would seem to be fairly well substantiated.

The parasyphilitic diseases, which are always degenerative *ab initio,* are: (1) Tabes dorsalis; (2) general paresis; and (3) some neuroses, including syphilitic neurasthenia, epilepsy, neuralgia, and possibly hysteria. The author believes that antisyphilitic treatment has little if any influence to prevent the occurrence of parasyphilitic diseases of the nervous system. In the chapter on prevention, a number of pages are devoted with advantage to the education and bringing up of the neuropathic child.

Part II. treats of the general application of remedial measures in the treatment of nervous disease. There are seven chapters, one each on drugs, hydrotherapy, electrotherapy, massage, exercise, rest and occupation, diet, and psychotherapy. In the chapter on drugs, the use of tetanus antitoxin and the thyroid gland, with the methods of their administration, is considered. The abuse of opium and the bromides is discussed, and a number of drugs useful in diseases of the nervous system are considered in detail, with points as to the best preparation, dosage, and manner of administration of each. The value of hydrotherapy, electrotherapy, and massage is discussed in the following three chapters, and the various forms, manner of application, length of each treatment, the diseases benefited, and the results to be expected from each form of therapy are considered. The chapters on diet and psychotherapy contain many useful suggestions.

In Part III., which considers the treatment of individual diseases, the author has made no attempt at classification, but has taken the subjects up in the following order: Diseases of the brain, of the spinal cord, of the peripheral nerves, of the sympathetic nervous system, the functional nervous diseases, and, finally, the most common symptomatic manifestations, such as headache, delirium, convulsions, hemiplegia, and insomnia.

The etiology of the various diseases is given rather fully, the symptoms are portrayed in as few lines as possible, while the treatment, in accordance with the purport of the book, is considered fully and in detail. The author has given proportionately much more space to the discussion of headache, neurasthenia, vertigo, and other functional and symptomatic states than to most of the organic diseases, for the reason that the former occur more frequently and cause more suffering. In considering the treatment of tabes, Fraenkel's method of re-education of the ataxic extremities is described and illustrated by a few engravings.

On the whole, this work of Collins is exceedingly good and will prove of interest and value to every general practitioner as well as to specialists in this branch of medicine.

The volume is illustrated by twenty-three engravings. It is disappointing that an otherwise admirable book should be printed on such a poor quality of paper as is used in this.

A System of Medicine by Many Writers. Edited by THOMAS CLIFFORD ALBUTT, M.D., M.A., etc., Regius Professor in the University of Cambridge; Fellow of Gonville and Caius College; Hon. Fellow Royal College of Physicians of Ireland. Volume IX. New York: The Macmillan Company.

THE present volume contains quite an assortment of topics. About 170 pages are devoted to a number of the neuroses. Craft Palsies, Torticollis, Tics, Paralysis Agitans, Migraine, Hysteria, Latah, Catalepsy and Neurasthenia are included here under this title. These are all excellent treatises, that on Neurasthenia, by the editor, being especially noteworthy. It is also worthy of note that migraine is considered as a toxic disease affecting the sympathetic nervous system. The section on Mental Diseases occupies over 250 pages, and, while not a complete treatise on insanity, it contains a number of suggestive articles by well-known writers. Dull, Delicate and Nervous Children by Frances Warner, and Vice, Crime and Insanity, by Dr. Mercier are valuable and forceful presentations of subjects now prominent in discussion. The chapter on Epilepsy and Insanity is also to be commended. The treatment of the main types of insanity, to which a special chapter is devoted, offers much that is new and suggestive.

The remainder of the book is concerned with Diseases of the Skin, these occupying 500 pages. The discussion of the various skin lesions is excellent, but the restrictions in the matter of illustrations render this portion of less value to the practitioner than many modern works on dermatology. The present volume is well up to the excellent standard of the others.

Twentieth Century Practice. An International Encyclopedia of Modern Medical Practice. By Leading Authorities of Europe and America. Edited by THOMAS L. STEDMAN, M.D., New York City. Volume XVIII. "Syphilis and Leprosy." New York: William Wood and Company., 1899.

THE eighteenth volume of this well-known system of medicine opens with a comprehensive description of acquired syphilis by Professor Lang of Vienna. "We have every reason to look for a living organism in the syphilitic contagium;

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but as we have not yet found it, we are unable to give a precise definition of syphilis. We must at present be satisfied to characterize the disease by enumerating the effects produced by the contagium." The author gives a good account of the variety in clinical appearance and distribution of the initial lesion. The account of syphilis of the nervous system is thorough, as is that of the osseous system. The description of joint syphilis is very meager. In the account of the blood changes in syphilis we are surprised to find a statement as manifestly incorrect as this: "Ehrlich discovered that the presence of cells with neutrophile eta-nuclei is characteristic of myelogenous leucemia." The author evidently is not well versed in modern blood pathology. We are glad to observe that due credit is given to the work of American syphilologists. The author is a firm believer in electric cataphoresis and extols the value of the electric sublimate baths.

Only twenty-eight pages are devoted to the subject of inherited syphilis, by Jonathan Hutchinson of London. More space should have been given to this important subject. From a recognized authority, as is Dr. Hutchinson, we expected much more than the meager account he has written.

Dr. Prince A. Morrow of New York contributes a long paper on "Leprosy" and gives a good description of the various stages and manifestations of the disease. The illustrations are excellent. The account of the geographical distribution of the disease and the methods of dealing with it in ancient and modern times is admirable and shows that the writer has a thorough knowledge of the literature of the subject.

Diseases of Women. A Treatise on Principles and Practice of Gynecology for Students and Practitioners. By E. C. Dudley, A.M., M.D., Professor of Gynecology in the Northwestern University Medical School, Chicago. Second Edition, Revised and Enlarged. 8vo., 717 pages. Illustrated. Philadelphia and New York: Lea Brothers & Co.

This second edition is even more attractive than the first and has some additional chapters, although the volume is preserved in its original convenient form. The plan of dividing the subject on the basis of pathology, which is a characteristic feature of the book, has been retained. The functional disorders of menstruation and sterility, although still recognized as symptoms only, have been skeletonized and presented in four new chapters. This addition introduces also thirty-one new engravings and six new full-page plates. The abundance of colored plates and pictures form an especially attractive and desirable feature.

There are one or two points in which we had looked for improvement. One was in reference to the teachings regarding the function of the perineum. We are surprised to find the author still declaring that the perineum is a support to the uterus. The abdominal muscles support the head, but we do not often speak of them in that connection.

In the chapter on perineorrhaphy the author has confined himself to one procedure, namely, the Emmet operation, and, although he has made this comparatively plain, it still remains a complicated procedure and difficult for the majority of the profession to undestand. There are other and simpler operations that give quite as good, if not better, results. In a work for students it would seem desirable that they should at least have the opportunity of understanding and adopting them. Each subject is concisely and definitely treated, and it is evident that the author relies upon his personal experience to justify his teaching. No recent book presents the practical side of gynecology in so complete, attractive and available a form.

A Pocket Text-Book of Diseases of Women, by Montgomery A. Crockett, A.B., M.D., Adjunct Professor of Obstetrics and Clinical Gynecology, Medical Department of the University of Buffalo, N. Y. Lea Brothers & Co., Philadelphia and New York. Price, $1.50.

This new volume of the series is in no way inferior to the volumes which have preceded it. The author has not forgotten that clearness and conciseness are, for the student, of the foremost importance; yet the completeness of the text will make it no less welcome to the practitioner. The first three chapters are devoted to a general discourse on diagnosis, local treatment and gynecological operations, which in every way conform to the latest concepts of the science. In the discussion of the separate diseases, the important subject of genital tuberculosis receives a separate chapter. A great deal of care has been bestown on the explanation of the mechanism in versions and flexions. The author is especially to be congratulated upon the successful way in which he has presented the difficult subject of ectopic gestation. Several minor subjects, such as kraurosis vulvæ have, on the other hand, received no mention whatsoever. The most important operations are mentioned in detail and the clearness of the text is still further enhanced by a number of excellent illustrations. The book is to be recommended as one of the best of the shorter treatises on gynecology.

Die Technik der speciellen Therapie. Ein Handbuch für die Praxis von Dr. F. Gumprecht, Professor in Jena. Zweite Auflage. 8vo., 354 pages. Illustrated. Gustav Fischer. Jena. Seven marks.

For the general practitioner certain routine examinations in the realm of the specialist are indispensable. To gain command of the methods of examination of special regions and to be able to treat the common ailments to which such regions are subject, the greater number of practitioners must attend post-graduate courses. In such courses treatment of the affections of the nose and throat, the stomach and intestines, the

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bladder, etc., is learned by actual work with the patient. The present volume serves the purposes, in large measure, of just this type of post-graduate instruction. It contains discussions, in brief, of the anatomy and physiology of a given region, and then describes the instruments used in the treatment of the more common diseases of the regions, with full detail as to the correct procedures. In addition it gives reasons why certain methods of treatment are advisable and discusses quite fully the *rationale* of a large number of technical applications.

An abbreviated list of the subjects treated is here given: Puncture and incision of the skin, blood-letting, transfusion, and vaccination; esophageal sounds and their uses, washing of stomach, feeding by esophageal tubes, electrical treatment of the stomach and intestines, massage of the intestines; treatment of the upper air passages, mouth, nose, pharynx and larynx; thoracentesis, drainage of chest and pericardium; abdominal puncture; lumbar puncture, and technical procedures for the genito-urinary tract.

The work is a valuable one for the student and the practitioners removed from the facilities of clinics and clinical instruction.

Sixth Annual Report of the Board of Managers of Craig Colony at Sonyea, N. Y. To the State Board of Charities. 1899.

THE report of this Board, of which Dr. Frederick Peterson is president, is of interest as it shows the development of one of the newest and most important branches of State charity. Since the opening of the Colony, February 1st, 1896, there have been received 504 epileptics, of whom 378 remain. During the past year 95 cases were admitted and 39 discharged. When the buildings now being erected are finished, the Colony will be able to care for 720 cases. There are already more than enough applicants to fill the additional beds.

All improvements during the last year have been made within the limits of the appropriations. Among the needs of the Colony for the coming year are dormitories and infirmaries, and for this purpose an appropriation of $100,000 is asked. Among other appropriations asked for is $4000 for scientific research. The death-rate for the past year was less than two per cent. The good results of treatment and life at the Colony have been more marked the past year than in previous years.

The Nervous System of the Child. Its Growth and Health in Education. By FRANCIS WARNER, M.D., Physician and Lecturer at the London Hospital. New York: The Macmillan Company.

THE impulse which was given by Preyer to the study of child-life has produced within the past five years a veritable avalanche of treatises on the various attributes of child-life. None has been more interesting than those devoted to child-psychology. While we have yet to see a presentation of the child's development as comprehensive and as suggestive as that of Preyer, this volume presents a number of features that are specially commendable.

The author's standpoint, the child's relation to education and the school, is especially engaging, since so much is hoped for in education and often so little is realized. As a guide for teachers and parents who desire to observe their children closely and wish to correct faulty habits of work and encourage fruitful lines of activity, the present volume is to be warmly commended.

BOOKS RECEIVED.

The MEDICAL NEWS *acknowledges the receipt of the following new publications. Reviews of those possessing special interest for the readers of the* MEDICAL NEWS *will shortly appear.*

THE SOUL OF MAN. By Dr. Paul Carus. Second edition. 12mo., 482 pages. Illustrated. Chicago. The Open Court Publishing Company.

THE IRRIGATION TREATMENT OF GONORRHEA. Its Local Complications and Sequelæ. By Dr. Ferd. C. Valentine. 8vo., 221 pages. Illustrated. New York. William Wood and Company. $2.00.

VENEREAL DISEASES, THEIR COMPLICATIONS AND SEQUELÆ. By Dr. E. L. Keyes and Dr. C. H. Chetwood. 8vo., 356 pages. Illustrated. New York. William Wood and Company. $2.75.

PROGRESSIVE MEDICINE. A Quarterly Digest of Advances, Discoveries and Improvements in the Medical and Surgical Sciences. Edited by Dr. Hobart Amory Hare. Vol. I. March, 1900. 8vo., 428 pages. Illustrated. Lea Brothers and Co., Philadelphia and New York.

THE ANATOMY OF THE BRAIN. A Text-Book for Medical Students. By Dr. Richard H. Whitehead. 8vo., 96 pages. Illustrated. F. A. Davis Co., Philadelphia. $1.00.

INJURIES TO THE EYE IN THEIR MEDICO-LEGAL ASPECT. By Dr. S. Baudry. Demi 8vo. 161 pages. Illustrated. F. A. Davis Co., Philadelphia. $1.00.

THE INTERNATIONAL MEDICAL ANNUAL AND PRACTITIONERS' INDEX. A Work of Reference for Medical Practitioners. 8vo., 747 pages. 1900. E. B. Treat & Co.

ELEMENTS OF CLINICAL BACTERIOLOGY FOR PHYSICIANS AND SURGEONS. By Dr. E. Levy and Dr. F. Klemperer. Second Enlarged and Revised Edition. 8vo., 441 pages. Illustrated. W. B. Saunders, Philadelphia. $2.50.

ESSENTIALS OF SURGERY. By Dr. E. Martin. Saunders' Question-Compends, $2. Seventh Edition, Revised and Enlarged. 342 pages. Illustrated. W. B. Saunders, Philadelphia. $1.00.

PLEA FOR A SIMPLER LIFE AND FADS OF AN OLD PHYSICIAN. By Dr. G. S. Keith. Demi 8vo., 175 pages. The Macmillan Company, New York. $1.25.

DISEASES OF THE GENITO-URINARY SYSTEM. A Thorough Treatise on Urinary and Sexual Surgery. By Dr. Eug ne Fuller. 8vo., 774 pages. Illustrated. The Macmillan Company, New York.

TWENTIETH CENTURY PRACTICE. An International Encyclopedia of Modern Medical Science. Edited by Dr. T. L. Stedman. Vol. XIX. Malaria and Micro-organisms. 8vo., 828 pages. Illustrated. William Wood and Company, New York.

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THE MEDICAL SCHOOL OF THE FUTURE.*

BY H. P. BOWDITCH, M.D., LL.D.,
OF BOSTON;
PRESIDENT OF THE CONGRESS.

AMONG the intellectual movements that have characterized the century now drawing to a close there is perhaps no one more deserving of careful study than that which is concerned with providing education for the people in the school, the academy and the university. The importance of popular education became apparent in proportion as political freedom was secured for the people. Thus Viscount Sherbrooke, better known as the Hon. Robert Lowe, in the reform debates of 1866 and 1867, after the passage of a bill for the extension of the suffrage, uttered the well-known words: "We must now at least educate our masters." The same sentiment has also more recently been embodied in the inscription on the Boston Public Library. "The Commonwealth requires the education of the people as the safeguard of order and liberty," and in the presidential address of Dr. J. M. Bodine[1] at the meeting of the Association of American Colleges in 1897 we find the same idea thus expressed, "In America the citizen is king. The king must be educated to wield aright his ballot-sceptre."

For many years educators looked upon their work with no little complacency. The educational systems of the various civilized countries were supposed to be well adapted to the ends in view, and educational exhibits have generally been regarded as important features of international expositions. But within the memory of most of those now before me signs of serious discontent have not been wanting. Education has not always been found to furnish the required safeguards for order and liberty. Highly educated men have often been found singularly lacking in mental balance. Schools for the inculcation of "common sense" have never yet been established. Even the great development of psychology as an experimental science, which has occurred chiefly within the last twenty-five years, although it has served to establish many laws of mental action, has thus far failed to justify the hope that pedagogy may find in psychology a foundation for the erection of rational systems of education. Indeed we have recently been told by one of the ablest expounders of this science that it is a great mistake for teachers to "think that psychology, being the science of the mind's laws, is something from which they can deduce definite programs and schemes and methods for immediate school-room use. Psychology is a science and teaching is an art. A science only lays down lines within which the rules of the art must fall, laws which the follower of the art must not transgress; but what particular thing he shall positively do within those lines is left exclusively to his own genius."[2]

Even this general guidance has been very imperfectly afforded, for the limits set by the science of psychology to the art of teaching have never been precisely defined. In fact the most fundamental question of all, *viz.*, the relation of mental to physical development has not yet been settled, although much material for its study has been collected. It is not, therefore, surprising that in many countries teachers have made too great demands upon the time and strength of growing children.

This has been clearly the case in Germany, where schoolboys from eight to fifteen years of age have found their vital energy so far exhausted by the school-work required of them that they have lost all inclination for vigorous athletic amusements so naturally indulged in by Anglo-Saxon boys. The deterioration of the race as a result of too close application to intellectual pursuits, to the neglect of the physique, has been fortunately obviated, in the case of Germany, by the army system which takes entire possession of the youth before it is too late and, by requiring him to devote three years to the education of his body, turns him out, at the end of that period, a young man with mind and body trained to a high degree of efficiency, well fitted for civil as well as military pursuits and comparing favorably in all respects with men of his age in other nations. Looked at from this point of view the German army must be regarded as an important part of the educational system of the country, although as a piece of educational machinery its workings cannot be considered economical. In fact, the absurdity of depending on the army to remedy the defects of the school system has long since been forced upon the attention of German educators and the difficulties above alluded to are now in a fair way to be removed.

In our own country difficulties of quite a different kind have been met with. Here the great danger which threatens our system of popular education arises from its close association with party politics. The office of a school committeeman in one of our large cities has been well de-

*President's Address.

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scribed as "the smallest coin in which politicians pay their debts" and as long as the education of our children continues to be entrusted largely to men who consider their position on a school board as the lowest step of the political ladder, there is small hope of the adoption of rational methods of education. Moreover, this intimate alliance between education and politics greatly aids the efforts of persons more zealous than discreet to direct the instruction of children in accordance with their own special views. Thus, nearly all the States of the Union have upon their statute books laws requiring the physiological action of alcohol to be taught to children in all grades of the public schools. These laws violate the first principles of pedagogy inasmuch as the physiological action of a drug cannot possibly be understood without a familiarity with anatomy, physiology and chemistry which school children cannot be supposed to possess. They have been passed at the bidding of total abstinence associations, sometimes in opposition to the earnest protests of the teachers entrusted with their execution. How these excrescences upon our educational system may be best removed and the work of instruction placed under the control of those best qualified to direct it are questions demanding serious consideration.

I have mentioned these instances in which great educational systems have been found wanting merely for the sake of pointing out that the critics of our methods of medical education, who, as Professor Exner[3] has shown, are now raising their voices in every land, do but give a special expression to a wide-spread feeling that our educational systems are not accomplishing all the objects for which they have been devised, and that the discontent which they imply is but a healthy dissatisfaction with the results thus far accomplished. May the time be far distant when those in charge of our educational interests shall rest content with what they have achieved, for this will indicate that a state of stagnation has been reached similar to that which characterizes the institutions of the Celestial Empire and that no further attempt is to be made to adapt our methods of instruction to the constantly widening domain of human knowledge and experience.

It may, perhaps, be well for me at this point to offer a few words in explanation of the selection of such a well-worn theme as medical education as the subject of my remarks this evening. It is true that in recent years the subject has been a favorite one with those who have been called upon to address medical associations or classes of graduating students and if, in spite of this fact, I venture to add another address to the fast growing literature of the subject, my justification may be found in the following reasons. In the first place, it must be borne in mind that such addresses are very quickly forgotten. "Were it not so," as Dr. Billings has remarked, "it would be a hard world for address-givers." In the second place, the progress of medicine at the present time is so rapid that new points of view are constantly being secured and it is, therefore, not at all impossible that, even at comparatively short intervals, new and valuable suggestions may be made both with regard to subjects to be taught and to methods to be employed in giving the instruction.

Lastly, it so happens that during the academic year now nearly completed, the faculty of the Harvard Medical School has inaugurated an entirely new plan of instruction in the sciences of Anatomy, Physiology and Pathology. This scheme, although still in the experimental stage, embodies ideas of such fundamental importance in medical education that its presentation to a representative body of the medical profession seems to me to be peculiarly appropriate.

I shall therefore ask you to consider with me this evening what lessons the faculty of a modern medical school may draw from recent advances in medical science and recent experience in medical education or, in other words, on what lines the instruction of a medical school of the first rank is likely, in the immediate future, to be organized. I say in the *immediate* future, for what changes are in store for us in the course of the next few decades it is equally impossible to foresee and useless to speculate.

Relation of Medical Schools to Universities.—One of the most hopeful signs of the times in the field of medical education is the growing tendency of the better schools to ally themselves to Universities and of Universities to establish Medical Departments. Of the great advantages to medical education which may be expected from this union it is unnecessary for me to speak, for they formed the subject of a thoughtful discourse delivered by the last president of this Congress at Yale University in 1888.[4] The twelve years that have elapsed since he spoke have brought accumulating evidence of the soundness of his views. In fact, it is difficult to see how a private medical school of the joint stock company type can ever, in the future, rise to the first rank, for such a school is not much more likely to attract endowments than a cotton mill, and without endowments the enormous expenses of a modern first-class medical school cannot possibly be met.

Great as are the benefits to a medical school of thus forming a department of a great university, the advantages of the union are not wholly on one side. Beside the increase of prestige secured to the University by the broadening of its functions, the establishment of a medical school as part of the university organization greatly facilitates the instruction of those students who, without any intention of becoming physicians, seek in the study of the medical sciences a means of general culture and mental discipline.

The relations between the governing body of a University and its medical faculty in matters of administration are often defined by custom and tradition rather than by statutory provisions and vary considerably in different institutions. In general two methods of government may be distinguished. Either the initiative is left with the

teaching faculty, the governing body exercising simply a veto power, or the governing body acts directly without necessarily asking advice from the faculty or its members. The former method of government is most likely to be found in those cases in which a well-established medical school has allied itself to a University for the sake of the mutual benefits that may ensue from the union, and the latter method in those cases in which a University has completed its organization by the creation of a medical department. Both methods have certain advantages and neither is without its drawbacks. In all cases men are more important than methods. On the one hand, the collective judgment of a teaching faculty on matters relating to medical education is likely to be of more value than that of a governing body which may not, and generally does not, include physicians among its members. On the other hand, personal and selfish considerations are perhaps more apt to sway the judgment of a faculty than that of a body of trustees, especially when the question is that of the appointment of teachers. That this is not a serious danger, however, the experience of Germany seems clearly to show, for in that country, as Dr. Farlow has recently pointed out, the faculty "has more power in regard to appointments and the general policy of the university"[5] than with us, and yet we find there the custom of calling professors from one university to another fully established, a custom which must be regarded as one of the strongest influences in maintaining a high standard of educational efficiency. On the whole, therefore, even with this possibility of error, the judgment of a faculty would seem to be the safer guide and there are probably few boards of trustees who would feel themselves justified in disregarding it altogether.

The above-mentioned advantages of a union between a medical school and a university will naturally become more obvious as the problems of medical education become more complex and the methods of instruction more costly. Hence we may expect in the near future to find all of the better class of medical schools under the ægis of a University and we may reasonably hope that this change will be associated with a diminution of the total number of medical schools now so greatly in excess of the needs of the country.

The union of a medical school with a university at once compels the consideration of the proper relation between the academic department and the professional school. To say that the former should be the feeder of the latter and that the holding of an A.B. degree should be the condition of admission to professional studies, is to adopt the position taken by two of our leading medical schools. The A.B. degree, however, since the introduction of the elective system, no longer stands for a definite amount and kind of training. Hence, the Johns Hopkins Medical School demands not only the diploma but also evidence of ability to read French and German and of laboratory training in physics, chemistry and biology. The Harvard Medical School is content to accept the A.B. diploma as evidence of fitness to pursue professional studies, stipulating only that the holder shall possess an adequate knowledge of inorganic chemistry. Whether the example set by these schools will be generally followed is quite doubtful. Without undervaluing the importance of collegiate training as a preparation for a professional career it may perhaps be contended that a properly conducted admission examination is a better test of fitness to pursue the study of medicine than the possession of a diploma, the value of which varies so much with the character of the college bestowing it. Moreover, the possibility that a young man, unable to afford the expense of a college course, may yet by private study prepare himself for a professional career is not to be lost sight of. Hence, the Harvard school provides for the admission by special vote of the faculty of young men not holders of an A.B. degree, who may furnish satisfactory evidence that they have obtained an equivalent education and that they are consequently able to profit by the instruction which the school has to offer.

The recent lengthening of the course of study from three years to four, in all the best medical schools of the country, has drawn renewed attention to the importance of enabling the student who takes the A. B. degree as a preparation for medicine to so far shorten the sum total of the time devoted to his education that he may be able to enter upon the work of his profession at an age not in excess of that at which his European confrères begin their career as practitioners. A few years ago an examination of the best accessible evidence on the subject led to the conclusion that foreign systems of university education enabled students of medicine to enter upon their life-work at least two years earlier than was possible for the alumni of Harvard College, a condition dependent upon the fact that the changes in the academic department which had raised the age of graduation had been made with little regard to the interests of the professional schools and chiefly for the purpose of making the undergraduate department as complete as possible in itself. In other universities a similar condition existed, although probably not in the same degree, as in Harvard.

That the American medical student, seeking the best possible preparation for his profession, is seriously handicapped by these conditions has been generally recognized and the question of the best method of meeting the difficulty has been widely discussed. The most thorough treatment of the case consists in reducing the academic course to three years. Less radical methods are the provision in the academic department of courses of instruction by which students may anticipate a part of their professional work and the permission to count the first year of a professional course as the fourth year for the bachelor's degree. The first and most radical method meets with strenuous opposition owing to the deeply

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rooted traditions which surround the four years' academic course in this country, while the other plans violate what in some colleges seem to be regarded as an educational axiom, that one course of study should not count toward two degrees. It is interesting to notice that, without any specific legislation to this end, the quiet working of the elective system has in Harvard College practically solved the problem by bringing about a condition in which, as President Eliot says,[6] "Any young man of fair abilities can now procure the degree in three years without hurry or overwork, if he wishes to do so or his parents wish to have him." The President further ventures to predict that "within a time comparatively short the majority of those who enter the freshman class will come to college with the purpose of completing the requirement for the degree in three years." As soon as a three years' residence becomes the rule rather than the exception, a young man spending four years in college will, of course, be regarded either as deficient in mental capacity or as having wasted his time.

That a reduction of the academic course to three years is an advantage to students looking forward to a professional career or to further study in a graduate school is too obvious to need discussion, but it is interesting to find the change advocated in the interest of the undergraduates themselves. Professor Clement L. Smith, for nine years Dean of Harvard College, points out[7] that there is a large and influential class of college men who get into the habit of frittering away their time simply because they have so much of it and that "for them and for those whom they influence—and these make up the largest part of the class we are now considering, the men who go from college into active life—the reduction of the course would be a distinct gain." Nor need we fear (as has sometimes been urged) that, in thus reducing the length of the college course, we shall lose the fourth and most valuable year, for, as Professor Smith says, "The senior year is the best year, not because it is the fourth, but because it is the last year. The causes which make it what it is come from before, not from behind; from the consciousness of opportunity passing away and of the serious problems of life close at hand. The period of waste lies between the fresh zeal and good resolutions with which the youth begins his course, and the growing sense of responsibility with which he draws near its close. It is this intermediate period that would be shortened in the briefer course. It is not the senior year that would be cut off; it is rather, let us say, the sophomore year, and with it might well go its absurd name."

It thus appears that the claims of the college and of the professional school upon the time of the students are in a fair way to be harmoniously adjusted .

Elective System.—Let us now consider in what way the medical school of the immediate future is likely to differ from that of the present time with regard to the subject matter of instruction. The most striking phenomenon presenting itself to the educator of to-day is the recent enormous widening of the educational horizon. "The immense deepening and widening of human knowledge in the nineteenth century and the increasing sense of the sanctity of the individual's gifts and will power"[8] are the fundamental facts which underlie the development of the elective system, but it is important to bear in mind that, as Professor Smith observes,[9] this development has been "due not so much to increase of knowledge—for not all new knowledge is straightway fit for educational purposes—but rather to the conversion of new fields of knowledge to the uses of education."

A discussion of the elective system of education with its attendant advantages and dangers would require far more time than I have at my disposal and I must content myself with pointing out the possibility that, in this period of transition, the educational pendulum may have swung to an extreme position and that too much attention has been given to the accidental differences of pupils while the essential similarity of their natures has been lost sight of. In discussions on individuality as a basis for the elective system one sometimes hears the statement (attributed to Leibnitz) that no two leaves of the same tree are alike. This dissimilarity, however, does not prevent them from all elaborating the same sap, and it is, moreover, always associated with sufficient essential similarity to enable any one, with even the most elementary knowledge of trees, to distinguish the leaves of an oak from those of a maple.

While admitting that some of the extreme positions now maintained by the advocates of the elective system may in the future have to be abandoned, no one can doubt the wisdom of adapting the education to the powers of the mind to be educated and of allowing, in the case of advanced students, the choice of the individual to be a determining factor in the selection of studies. Let us, therefore, enquire to what extent the elective system may properly find a place in the curriculum of our medical schools. That it forms an essential feature of our post-graduate schools of medicine scarcely needs to be mentioned, for these schools have been organized for the express purpose of enabling graduates in medicine to select such subjects for study as may seem to them desirable and to acquire more advanced knowledge than was possible in the undergraduate course. Moreover, in some of our larger schools, since the establishment of the compulsory four years' course, a portion of the instruction of the fourth year has been given in elective courses in various specialties. The elective system in medicine is, therefore, not altogether a novelty and the question now before us is whether it may be profitably extended to the earlier years of the course.

In his remarks at the dinner of the Harvard Medical Alumni Association in 1895, President Eliot used the following language: "There ought

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to be in the Harvard Medical School an extended instruction far beyond the limits of any one student's capacity. This involves, of course, some optional or elective system within the school itself, whereby the individual student should take what is, for him, the best four years' worth, the faculty supplying teaching which it might take a single student eight, twelve or twenty years to pursue."[10]

One year ago last December, in an address which I had the honor to deliver in New York before the American Society of Naturalists,[11] I gave the reasons which seemed to me conclusive in favor of this extension of the elective system, and, with your permission, I will take the liberty of presenting as briefly as possible the views there set forth.

In the first place, it may be assumed that a medical school of the first rank should be an institution in which the most advanced instruction in all departments of medicine can be obtained, and on this assumption it is, of course, impossible to arrange a course of study that every student must follow in all its details, for, in the time which may properly be devoted to a course of professional study, it is quite impossible for even the most intelligent students to assimilate all the varied information which such a school may be reasonably expected to impart.

It seems, therefore, to be evident that in arranging a course of medical study a distinction must be made between those subjects which it is *essential* that *every* student should know and those subjects which it is *desirable* that *certain* students should know, that is, between those things of which no man who calls himself a physician can afford to be ignorant and those which are important for certain physicians but not for all; in other words, provision must be made both for required and for elective studies. The task of drawing the line between the essential and the desirable in medical education will require the greatest possible good judgment and readiness for mutual concession on the part of those engaged in the work, but there is no reason to fear that the difficulties will be found insuperable when the importance of the change has once been recognized.

Any one who is familiar with the existing methods of medical instruction is aware that in nearly every department many things are taught which are subsequently found to be of use to only a fraction of those receiving the instruction. Thus, the surgical anatomy of hernia is taught to men who will subsequently devote themselves to dermatology, future obstetricians are required to master the details of physiological optics, and the microscopical anatomy of muscles forms a part of the instruction of men destined to a career as alienists. Now no one can doubt the propriety of including instruction on all these subjects in the curriculum of a medical school, but it may be fairly questioned whether every student should be forced to take instruction in them all.

To better indicate the nature of the reform which I am advocating, allow me to describe a possible arrangement of a course of study in the department of physiology, with which I am, of course, more familiar than with any other. An experienced lecturer will probably find it possible to condense into a course of about forty or fifty lectures all the most important facts of physiology with which every educated physician must necessarily be familiar. Attendance upon these lectures, combined with suitable courses of text-book instruction and laboratory work, would suffice to guard against gross ignorance of physiological principles. In addition to this work, all of which should be required, short courses, of not more than eight or ten lectures each, should be provided, giving advanced instruction in such subjects as the physiology of the special senses, cerebral localization, nerve-muscle physiology, the internal secretion of glands, the physiology of the heart, circulation and respiration, the digestive secretions, the reproductive organs, etc. These courses should be elective in the sense that no student should be required to take them all. Each student might, however, very properly be required to choose a certain number of courses, which, when once chosen, become, for the student choosing them, required courses leading to examinations. There is, in my opinion, no doubt that an arrangement of instruction similar to that here suggested for physiology could be advantageously adopted in the departments of anatomy, histology, bacteriology, medical chemistry, pathology, surgery, and in the courses of instruction in the various special diseases, such as dermatology, ophthalmology, etc.

In the existing state of medical education the introduction of the elective system in some form or other seems to be an essential condition to any further important advance, for the curriculum of most of our schools is already so crowded that no considerable amount of instruction can possibly be added. Various arguments may, of course, be advanced in opposition to the change. It may perhaps be urged that no choice of studies can be made without determining to some extent the direction in which the work of a future practitioner is to be specialized and that such specialization cannot be properly and safely permitted until the student has completed his medical studies. To this it may be answered that, whatever may be the dangers of too early specialization, the dangers of crowding the medical course with instruction of which many students do not feel the need, and of thus encouraging perfunctory and superficial work, are certainly no less serious. It is, moreover, a matter of common observation among teachers in medical schools that a certain number of students very early make up their minds either that they will become surgeons, obstetricians, or specialists of some sort, or, on the other hand, that they have a strong aversion to certain branches of medicine and a determination never to practise them. For such students a prescribed curriculum necessarily involves great loss of time and energy.

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If it be said that under this system the medical degree will cease to have the definite meaning now attached to it and that it will be impossible to tell from his diploma in what way a physician has been educated, it may be replied that, although the degrees of A.B., A.M., Ph.D. and S.D. are affected with exactly this same uncertainty of signification, their value seems in no way diminished thereby. As long as the M.D. degree stands for a definite amount of serious work on medical subjects, we may be reasonably sure that those who hold it will be safe custodians of the health of the community in which they practise.

If it be urged that the elective system in medical education will lead to the production of a class of physicians who, owing to the early specialization of their work, will be inclined to overrate the importance of their specialty and to see in every disease an opportunity for the display of their special skill, it may be pointed out that this result is apt to be due not so much to early as to imperfect instruction in the work of a specialist, and that since the elective system tends to encourage thoroughness in special instruction, the evil may be expected to diminish rather than to increase.

Methods of Instruction.—Having thus recognized the necessity of remodeling our conception of the subject matter to be taught and noted the importance of distinguishing between the essential and the desirable in medical education, we must next consider by what methods the needed information may be best imparted and the necessary training secured. There is, perhaps, no way in which modern educational methods differ more from those of an earlier period than in the greater prominence given to object lessons. Beginning with the kindergarten, the child is trained to cultivate his power to observe accurately and to manipulate skilfully and, through his school and college life, prominence is given to the objective side of education to an extent which would have seemed to the book-trained pedagogues of a former generation but ill-adapted to provide the well-stored mind which it was thought to be the principal object of education to secure. In the professional schools also the reaction against purely didactic methods has been strongly felt. Even in those professional pursuits to which the object method might seem at first sight least applicable, in the study of the law the so-called "case method" of instruction has been found to exert a vivifying influence.

In medical education in this country it is interesting to note that, in the very beginning, the instruction was more objective in its character than at a somewhat later period. In those early days it was in the office of his preceptor and at the bedside, as his actual assistant, that the embryo physician was initiated into the mysteries of his calling. Then followed a period when it was clearly perceived that the trained mind is necessary to interpret the data of observation and that mental training is essential to correct observing. Hence, schools were established to provide this training by means of systematic didactic lectures covering all the departments of medicine and usually extending over not more than four months. These schools were intended at first merely to supplement the work of the preceptors, but in process of time the relative importance of these two educational agencies was reversed and the work of the preceptors became supplementary to that of the schools. The function of the preceptors finally became so subordinate that their names no longer appeared in the catalogues, although this did not always indicate that they had ceased to afford students opportunities for practical clinical work.[12]

The schools, once established, grew chiefly by an increase in the length and number of the lecture courses as new and important subjects forced themselves on the attention of the medical profession. Against this undue extension of purely didactic methods of instruction a reaction has now set in and during the last ten or fifteen years loud voices have been raised in advocacy of more objective methods than those at present in use. It is not, however, the reinstatement of the preceptor that is urged, but rather the greater use of laboratory methods in the strictly scientific departments of medical instruction and their application as far as possible at the bedside of the patient. A discussion of the relative advantages of the laboratory, the lecture and the text-book as methods of medical education cannot be undertaken without a recognition of the fact that this education has a double object. In the first place the faculties of the student are to be so trained that he may observe carefully, reason correctly, study effectively and judge wisely; in other words, he is to be "trained for power" to use President Eliot's phrase. In the second place there must be imparted to him a sufficiently large fraction of the acquired medical knowledge of the time to make him a safe custodian of the health of the community. Which of these two objects is the more important is a question which we need not now discuss, but even if we grant all that is claimed by the advocates of training for power it is evident that the constantly increasing range of subjects with regard to which an educated physician must be informed will greatly reduce the time which, in the curriculum of a medical school, may properly be devoted to courses of instruction not intended to impart direct and valuable information. In fact, "training for power" should be largely a function of the academic department of a university, and when undertaken in a professional school, should be so directed as to impart at the same time the greatest possible amount of useful information.

Let us now consider how far the didactic and the laboratory methods of instruction are each adapted to secure these two objects of medical education. For the purpose of training for power no one can doubt the value of the laboratory method. Contact with the phenomena themselves and not with descriptions of them has a stimulating effect on the mind of a student, the

importance of which it is difficult to exaggerate, but it does not follow from this that the lecture, the recitation and the text-book are worthless as methods of training. It is here that some of the advocates of laboratory methods have committed what appears to me a serious error such as is too apt to characterize all reform movements, the error, namely, of assuming that, because one proposition is true, another proposition, not logically inconsistent with it, must be untrue. "These gentlemen," as Professor Howell[13] has expressed it, "having become possessed of the golden truth that the best knowledge is that which comes from personal experience, seem disposed to deny all value to knowledge communicated from the experience of others." We are told, for instance, by Dr. Burr,[14] that the didactic lecture "dates from the time when printing was unknown and manuscripts were rare and almost priceless and the only means of communicating knowledge was by word of mouth. To-day it is in large part an anachronism, because the time devoted to it could be put to better uses."

In his able address[15] at the last Yale University Medical Commencement my colleague, Dr. C. S. Minot, expressed himself as follows: "The very best that can be said of a lecture or a book is that it describes well the knowledge which some one possesses. There is no knowledge in books. . . . A book or a lecture can serve only to assist a man to acquire knowledge with lessened loss of time. Knowledge lives in the laboratory; when it is dead we bury it decently in a book. . . . A lecture is a spoken book." I venture to believe that Professor Minot's students will hardly agree with this estimate of the lifeless character of either his written or his spoken instruction.

In place of these rather disparaging views of the importance of a didactic lecture, I am inclined to accept Dr. Weir Mitchell's[16] opinion that "The best lecturing does not so much think for you as invite you to think along suggested lines of enquiry." If, as has been claimed, "the passive attitude of listening does not demand of the students intelligent thought"[17] the fault must lie with the lecturer and not with the method of instruction. In every department of medicine advanced instruction necessarily deals with subjects which lie within what Foster has called the "penumbra" of solid scientific acquisition and about which conflicting views are therefore certain to be held. It is in inviting thought with regard to the evidence on which these views rest that the experienced lecturer has his best opportunity to train the minds of his hearers. Other opportunities are also afforded by the historical presentation of subjects about which differences of opinion no longer exist, for there are few things more instructive than to follow up step by step the lines by which our knowledge has advanced, noting the marks which distinguish the paths which have been trodden successfully from those which have turned out to be "No Thoroughfare." Even better opportunities for mental training than those which the lecture room presents are afforded by the recitation, for here the minds of the teachers and the pupil are brought most closely into contact, the pupil's difficulties are appreciated by the instructor and the point of view of the teacher can be learned by the pupil. It has always seemed to me that no higher enjoyment falls to the lot of the teacher than that which he experiences when, by a series of carefully considered questions, he leads his pupil onward from the known to the unknown and notes the gleam of intelligence which illumines his countenance as a subject, previously obscure, becomes clear, as a result of his own mental operations guided by his teacher's skilful questions. It thus appears that no monopoly of opportunities for mental training can be claimed for the laboratory method of instruction.

We must next enquire: What are the relative advantages of the laboratory and didactic methods as means of imparting information? Here we at once perceive that a great deal will depend upon the kind of information to be imparted. Certain subjects are much better adapted than others to be taught in the laboratory. The student of anatomy, for instance, can secure the greater part of the information which he needs by laboratory methods, *i. e.*, in the dissecting room, although a short course of lectures on descriptive anatomy in which an experienced teacher emphasizes the salient features of the subject will probably always be indispensable. Physiology and Pathology (including physiological chemistry, pharmacology and bacteriology) are subjects in which laboratory instruction may be unquestionably much more freely used than is customary at the present time. The recent experience of the Harvard Medical School, in which the laboratory courses in these subjects have been greatly extended, has furnished conclusive evidence of the value of this method of instruction as a means both of imparting information and of stimulating the mind of the student. It must be remembered, however, that, as Dr. Welch[18] has said, "laboratory methods are extremely time taking and are not adapted to teach the whole contents of any of the medical sciences. It is, of course, hopeless to attempt to demonstrate practically all of even the more important facts that the student should learn."

Moreover, observed facts are often apparently inconsistent with each other. Equally competent observers differ in their interpretation of them. Yet, because the last word of science has not been spoken on these subjects, it would be a mistake to exclude them from the medical curriculum. The student should rather be carefully instructed as to researches which have not yet yielded definite results. The most profitable way of reconciling conflicting observations should be pointed out, and he should be shown in what direction the search for truth can be prosecuted with the best prospect of success. He will then be able to appreciate the value of new observations and to assign them to their true position.

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Instruction of this sort can, of course, be given only by an experienced lecturer who has mastered the subject of which he treats. It is in this kind of teaching and in the exposition of those facts and principles which cannot properly be made the subject of laboratory instruction to students that the didactic lecture of the future will probably find its principal field of usefulness. In the latter direction, however, the field is more restricted than might, at first, appear, for the amount of practical work that can be successfully performed by first and second year students in a physiological or in a pathological laboratory is surprisingly large. In the physiological department of the Harvard Medical School, for instance, during the current academic year each pair of students in a class of 180 has been furnished with a kymographion, a capillary electrometer, a moist chamber, an induction coil, unpolarisable electrodes, etc., and the most important experiments of nerve muscle physiology have been successfully repeated. The fundamental experiments in the physiology of the circulation, respiration, etc., are to be performed in a similar manner. In the pathological laboratory the students, working in sections of ten, have had an apportunity of producing for themselves and studying experimentally the most important pathological degenerations. They have also studied in the same way the principal infectious diseases. In the anatomical department also, while the number of didactic lectures has been diminished, the whole class has had largely increased faculties for the practical study of bones and of various special organs.

Still, after making due allowance for the legitimate expansion of laboratory teaching, it is probably safe to say that a systematic course of lectures in each of the medical sciences will never be found to be superfluous and that the day is probably far distant when the lectures will be merely "explanatory of the experiments."[19]

We have thus far considered the relative advantages of didactic and laboratory methods in teaching the medical sciences, but the agitation in favor of more objective teaching has extended also to the clinical departments of medicine and the organization of "clinical laboratories," in which the cases of hospital patients may be studied by the most refined methods of physiologic and pathologic research, is a natural outcome of this agitation. In fact, however, so far as instruction is actually given at the bedside, clinical medicine has always been taught by means of object lessons. In many of our schools this instruction has been supplemented by so-called "conferences," exercises in which a student reports before the class a case which he has himself examined, giving diagnosis, prognosis and treatment. The subject is then discussed by the class and finally by the instructors.

Wherever actual cases of disease are thus utilized for teaching purposes the instruction is always likely to be more or less haphazard and unsystematic, for the diseases studied will be those of which actual cases happen to be available. To remedy this difficulty it has been recently proposed[20] to substitute the study of hospital records of cases for the examination of the cases themselves, a method quite analogous to that known as the "case-method" which has long been used with great success in training students in the Harvard Law School. It will thus be possible to group cases so that they will throw light upon each other and, though the student will miss the stimulus of contact with the actual patient, the method presents so many distinct advantages that it will doubtless commend itself to many teachers of clinical medicine and of theory and practice.

It is thus evident that the reaction against purely didactic methods of instruction is well under way. It is a movement to be heartily welcomed, for there can be no doubt that medical students have been and still are too much lectured, but, like all other reforms, it should be carefully guided lest useful as well as useless things be swept away. It should be borne in mind that it is quite as easy to abuse the laboratory as the didactic method of instruction and that in all schemes of education a good teacher with a bad method is more effective than a bad teacher with a good method. As Professor Howell[21] has well remarked, "courses of lectures, that, if analyzed would be found to be top-heavy and lop-sided, and otherwise possessed of an instability that should have insured failure, have been saved and made instruments of great value by the mere earnestness of the teacher."

Distribution of Work.—The next question which I shall ask you to consider is that of the proper distribution of the work of a medical student. Thirty years ago no such question seems to have presented itself to the minds of instructors in medicine. The medical faculties of that time contented themselves with providing, each year, courses of lectures covering all the departments of medicine, as they were then understood, and every student was expected to attend as many of the lectures as he saw fit. Between 1870 and 1880 the fact that there is a natural sequence in medical studies became generally recognized and graded courses of instruction were established in the principal medical schools of the country. The grading was not, however, carried sufficiently far. Thus instruction in both anatomy and physiology was generally given simultaneously through the whole of the first year, though the knowledge of structure should logically precede a study of function.

The time seems now to have come for taking another step in grading medical instruction and, during the academic year now drawing to a close, instruction in the Harvard Medical School has been given in accordance with a plan of which the guiding principles are concentration of work and sequence of subjects. Thus in the first half of the first year the students devote themselves exclusively to the study of anatomy, including histology and embryology. In the second half

year they are occupied with physiology, including physiological chemistry, while in the first half of the second year pathology, including bacteriology, engages their attention. It is perhaps too early to pass a final judgment upon the value of the method, but thus far both teachers and students seem to regard it as a success. The result seems to have justified the opinion of its advocates that the work of the student would be made "easier by concentrating his thoughts upon one subject instead of dissipating his attention upon many subjects."[22] Nor have its opponents found any justification for their fears that the average brain would become fatigued and unreceptive by too close application to one subject, for the sciences of anatomy, physiology and pathology "are not narrow hedged-in areas but rather broad and diversified domains composed of many contiguous fields,"[23] in passing from one to another of which the student may rest his mind without interrupting the continuity of effort essential to effective work.

An obvious objection to this method of concentrating instruction is the large amount of work which it imposes upon the instructors. There is no doubt that the labor of teaching every day in the week may task the powers of even the most enthusiastic instructor, but it has been found that the laboratory work which has occupied from two to three hours every forenoon has been conducted with much less fatigue than was anticipated. In fact, students, when supplied with printed directions for work and with the necessary apparatus, need remarkably little supervision. In the physiological laboratory it was found that one instructor could readily supervise the work of fifteen pairs of students, and the experience in the anatomical and pathological departments was of a similar sort.

Examinations.—Closely connected with the questions of method of instruction and of distribution of work is the subject of examinations. With regard to these tests of our educational methods opinions vary even more widely than with regard to the methods themselves. There is only one point, as Professor Exner has remarked, on which teachers are practically united and that is "that an examination is a necessary evil." Every examiner knows only too well that an examination is but a very imperfect test of knowledge, but few are ready with any suggestion of a substitute. Much of the confusion which prevails in the discussion of this subject would be removed if the objects to be secured by an examination were more clearly apprehended. Professor Exner[24] points out that examinations may be broadly divided into two classes, *viz.*, the *Controlprüfung*, to test the faithfulness with which the student has performed his daily tasks, and the *Reifeprüfung* to determine the amount of his permanently acquired knowledge of medical subjects.

The examination, which, at the end of the year, covers the whole ground of the previous twelve months' instruction and which is so common in our schools, belongs to neither of these two classes and is really a concession to a very natural wish of the student to get the examination "out of the way" while the subject is still fresh in their minds. Having little justification from an educational point of view, we may hope to see it abandoned when the extension of laboratory methods provides in the notebook and graphic records of each student the evidence of his daily work and thus either renders a further examination unnecessary or prepares the way for a final test of his fitness to receive his diploma of M.D. Whether the written or the oral examination affords the better method of applying this test is a question about which opinions vary. The fact that some persons can write more readily than they talk, while others can talk more readily than they can write, seems to be a reason for providing a mixed method of examination in which each individual may have an opportunity of appearing to the best advantage.

Conclusions.—If the views here presented are well founded we may expect that a medical school of the first rank will, in the immediate future, be organized and administered somewhat as follows:

I. It will be connected with a University but will be so far independent of university control that the faculty will practically decide all questions relating to methods of instruction and the personnel of the teaching body.

II. It will offer advanced instruction in every department of medicine and will therefore necessarily adopt the elective system of some sort, since the amount of instruction provided will be far more than any one student can follow.

III. The laboratory method of instruction will be greatly extended and students will be trained to get their knowledge, as far as possible, by the direct study of nature, but the didactic lecture, though reduced in importance, will not be displaced from its position as an educational agency.

IV. The work of the students will probably be so arranged that their attention will be concentrated upon one principal subject at a time and these subjects will follow each other in a natural order.

V. Examinations will be so conducted as to afford a test of both the faithfulness with which a student performs his daily work and of his permanent acquisition of medical knowledge fitting him to practise his profession.

If I have clothed these conclusions in the language of prophecy it is because the title of my discourse has laid this necessity upon me. In forecasting the immediate future, I have borne in mind the history of the immediate past, and, if I have failed to read aright the indications of the lines on which our medical schools are to advance, it must be remembered that the development of a biological science and of its dependent arts not infrequently takes place in totally unexpected directions, thus introducing into the

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path of educational progress perturbations which may well defy prediction.

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TRUTH IN MEDICINE.[1]

BY E. G. JANEWAY, M.D.,
OF NEW YORK;
PRESIDENT OF THE ASSOCIATION OF AMERICAN PHYSICIANS.

FOR the fifteenth time it devolves upon the President to welcome the members of the Association to that gathering which has its chief interest in meeting those engaged in like work. We will hear from them that which during the year past has seemed, of all that they have met and observed, the most fit to bring before colleagues interested in learning some new fact as regards the old diseases or some new interpretation of the phenomena of those maladies.

Fortunately we also have among our number those who are able to give themselves up to the study of pathology and from whom in the past we have learned much of the pathological processes which underlie disease, who will at this meeting continue their good work. Of late we have also been fortunate in having members who have given anxious thought to the chemical side of the study of the alterations of disease and who will again strive to enlighten us on this the most difficult of the questions with which we have to do. Each of us who has attended the past meetings must admit having received much of benefit from the presentations and the discussions of our associates. Your President of this year looks back with regret at certain of the opportunities which he wasted in the past, under the stress of his professional work, and he only alludes to it in passing that he may stimulate the younger members to so arrange the year that they may find the time to both give and receive knowledge, thus making the meetings of this association more valuable with each passing year. Let us each endeavor to make this Association so far as in us lies, as regards those matters which it falls under our province to consider, the equal of any and the inferior to none throughout the world. If we are each possessed by such a noble spirit of rivalry I am sure that our Association will not only maintain, but will surpass in the future that high regard in which it has been held.

Your President, in the fear that not enough of the members would bring material, sent out as you know two appeals. Results show that he was not sufficiently aware of the deep interest which you had in the success of our meeting on this the year of the Medical Congress. The calendar as you have read is more than full, and in so far as he may have been responsible for this the motto that brevity is the soul of wit is forced home upon his inner consciousness. It is his duty as well as his privilege to so allot the time that each member may be heard, and not himself to consume such time by his general introductory remarks as to infringe upon that which is the moral right of the members under the circumstances. But for this he would have been tempted to touch upon the theme "Truth in Medicine." This could have been handled under such heads as truth in statistics; truth in diagnosis; truth in therapeutics, and truth in pathology. Any society which has its annual meetings in the city of Washington, a city named after a man whose name could stand as a synonym for truth—should so far as its members are concerned, need no other reminder of the value of truth; nor do I think that the members of this Association need even this reminder for I take it we are all seekers after truth. Would that all who come to Washington could be so impressed by his name that only the truth should be spoken in this city, or only honest methods followed in the pursuit of power, place, and gain. But time urges and we now turn to the work of the Association.

[1] Opening Remarks of the President.

*PERFORATING DUODENAL ULCERS.**

BY ROBERT F. WEIR, M.D.,
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THE interest that has been lately directed toward the surgical treatment of gastric perforations has also been turned to the operative relief of the allied round or peptic ulcer of the duodenum. This affection is much rarer than the ulcer of the stomach, is much more difficult to properly diagnosticate, and is more apt to be confounded with other more distant surgical lesions, such as appendicitis, etc.

Its site is in the upper part of the duodenum, and according to Morot[1] and Vonwyl[2] it is always situated within one and one-half inches of the pylorus; but Schwartz[3] gives one case where the perforation existed on a level with or a little below the ampulla of Vater and thus allowed a free escape of bile into the peritoneal cavity. The figures given by recent authorities show that in the

* President's Address.

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262 collected cases of Collin[4] the perforation occurred 242 times within 2 inches of the pylorus, in the descending portion, 14 times, in front of the aorta, 3 times, and in the ascending portion, 3 times. Or, expressing the same a little differently, 162 of the 262 cases were situated at 2-4 mm. from the pylorus; 75 close to it; 4 encroached on the pylorus itself, and 2 extended through the pylorus to the duodenum and to the stomach. Perry and Shaw[5] found in 141 cases of duodenal ulcer, 123 in the first part of the duodenum, 16 in the second part and only 2 in the third part.

Number.—These ulcerations are usually single. Collin says that one ulcer was found in 80 per cent. of his cases; two ulcers in 11 per cent.; and three or four ulcers in 4 per cent. Morot in 22 cases found that 18 had a single ulcer; two, 2 ulcers; one, 3 ulcers, and one, 4 ulcers.

Location.—These perforations are encountered most frequently on the anterior wall. Oppenheimer[6] in 15 cases noted that the perforation had taken place in the anterior wall 11 times; 3 times posteriorly and once superiorly. Of the 119 cases of Collin in which the first portion of the duodenum was perforated, in 68 it occurred on the anterior wall of the bowel; in 39 on the posterior wall; in 10 on the superior, and in 1 on the inferior portion. In 8 ulcers perforating in the second portion of the bowel, 5 occurred in the internal wall; 2 in the posterior and one in the external wall; and in the ulcers presenting in the third part of the duodenum, 4 in number; in 3 the anterior and superior walls were involved, and in 1 the posterior wall. This is of considerable surgical importance. The anterior perforations are, for obvious anatomical reasons, less likely to be closed off by adhesions and, hence, a free and rapid involvement of the peritoneal cavity takes place in openings here situated. Beckman[7] states that half the cases of duodenal ulcer die from perforation into the peritoneal cavity.

Perforation is said to take place 180 times in Collin's 262 cases, or in 69 per cent.; Chvostek, however, places the frequency of perforation at about 42 per cent. of the cases. In these 262 cases there was a generally diffused and fatal peritonitis, 125 times. Occasionally in anterior openings, but more commonly with the perforations existing elsewhere, adhesions or ulcerations with abscess and hemorrhage of the duodenal wall or adjacent organs have been encountered. Examples of such complicating lesions are subphrenic abscess which follows more commonly a perforation in the superior wall of the horizontal portion of the duodenum (according to Oppenheimer). Liver and pancreatic adhesions are at times met with (Oppenheimer gives 6 cases and Collin 38 cases of such adhesions). Perforations into the gall-bladder have been reported, but more important and dangerous are the ulcerations into the aorta (Stich[8] 2 cases), or the vena porta (2 cases, Rayer and Habershon), or the superior mesenteric vein (Warfinger), or the hepatic artery (Vonwyl). The ulceration has been also known to invade the adjacent colon (2 cases, Murchison and Saunderson).

Sex.—These perforations are more common in men than in women, about 79 per cent., according to Collin, occurring in males. From the tables of Morot, Kraus, Lebert and Chvostek I have gathered 176 cases of duodenal ulcers, and of these 144 were in men and 30 in women. This has been explained by Boas[9] to be due to the rougher food eaten by men and to their addiction to alcohol and tobacco.

Causes.—A coarse diet and alcoholic liquor, he thinks intensifies the acidity of the gastric juice and this acts unduly on the granular mucous membrane of the duodenum, which is not protected until the alkaline bile and pancreatic fluid is poured into the intestine at the opening of Vater. Koch and Ewald, by giving to animals 5 per 1000 HCl, caused duodenal ulcers to appear. Pyloric spasm, Talma states, produces necrosis and anemia of the membrane there. On the other hand, alcoholics are not found to be prone to duodenal ulcer, and although the spasms and lesions of gastric hyperacidity which are now accepted as a causative of stomach ulcer will doubtless apply in many instances to the development of a similar duodenal damage, there are other causes for duodenal ulceration to be mentioned in addition to the foregoing.

The principal and best known, although now somewhat disputed factor in their etiology is the influence of external *burns*. Holmes,[10] for instance, states that in 125 cases of burns, 16 cases of duodenal ulcer were found; Perry and Shaw in 149 cases of burns, met with duodenal ulcers five times; and in Collin's 297 cases of duodenal ulcer he states that burns produced the ulceration in 38 instances. According to Holmes the duodenal ulcerations after burns present themselves from the seventh to the fourteenth day, but Porfick found in one instance a duodenal ulcer within 18 hours after the reception of the burn. Curling also had a case where symptoms of duodenal ulcer were recognized one day after the burn, and the autopsy confirmed the diagnosis.

The explanation most accepted at the present day is that this complication of a burn is due to septic infarctions such as may be developed in frost-bite, of which Billroth and Adams each cites a case, or in erysipelas, 8 instances, or in tuberculosis (Latham). In the case where trichinosis (Ebstein), or heart or kidney disease, or cirrhosis or hepatic or other carcinomata (Latham) exist, it is not quite so easy to trace the connection, although even here thrombosis has largely to deal with the question. The recognized explanation offered by Hunter,[11] and often quoted, seems inadequate to elucidate the relation between a cutaneous burn and a duodenal ulcer. This observer proved that in animals treated by injections of toluylendiamene the bile was so changed that when discharged into the duodenum ulcerations rapidly developed. His idea, therefore, was naturally that the alteration of the cutaneous covering so altered the bile as to beget the compli-

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cating duodenal ulcerations. Unfortunately, duodenal ulcers are so rarely met with on a level with or below the bile discharge into the bowel that this at once disposes of the need of calling on the liver and pancreas as accomplices in their production. That septic infarction is the most probable cause of duodenal difficulties after burns may also be fairly inferred by the later collection of Lockwood, in which, in 138 cases of burns treated with more or less approach to antiseptic idea, the complication of duodenal ulcer was noted in but one instance. A cancerous ulceration is almost unknown, but 4 cases (Eichert, Ewald, Schrotter, and McKenzie) are recorded.

Frequency.—According to statistics, a duodenal ulcer is a rare lesion. Collin, whom one is compelled to quote by the worth of his collected cases, could find only 26 cases in a range of 10 years. Houze[12] in three additional years could add only three more cases, although Darras[13] more than one year later found 5 others. Since attention has been given to the subject and particularly to the surgical aspect of it by the present writer in 1896, when 9 cases were reported as having undergone surgical treatment, there have been reported 41 operations for this disease.

The relative frequency as a cause of death deduced from autopsies is as follows:

Williget, 1600 sections with 74 gastric ulcers and 2 duodenal.

Starke, 384 sections with 36 gastric ulcers and 3 duodenal.

Grunfeld, 1150 sections with 124 gastric ulcers and 4 duodenal.

Can be supplemented by:

Stein's 3085 sections with 89 gastric ulcers and 12 duodenal.

Vonwyl's 12,806 sections with 98 gastric ulcers and 3 duodenal.

Latham's 8192 sections with no gastric ulcers and 12 duodenal.

Perry and Shaw's 17,652 sections with no gastric ulcers and 70 duodenal.

New York Hospital (unpublished), 1000 sections with no gastric ulcers and 2 duodenal.

Total, 49,369 sections with 421 gastric ulcers and 108 duodenal.

Or about .2 per cent. in frequency.

Kinnicutt,[14] however, in 30,000 autopsies which probably included many embraced in the above table, has given a rather higher percentage of frequency, placing it at 0.4 per cent. Although the proportion is a small one, stress must be laid on the fact that from 40 to 70 per cent. of these ulcers perforate, with an almost invariable fatal result. The relative proportion of gastric to duodenal ulcers is 12 to 1, Burwinkel.

Age.—It is encountered at all ages. Chvostek in 87 autopsies on children under 10 years of age found 5 duodenal ulcers, of which 1 was seen in a 7 weeks-old child, another in a child 4 days old, and a third in a babe of 3 hours. Collin's table is the most complete in this respect, and it is here presented. In 297 cases of duodenal ulcers they were met with:

Under 10 years of age, 42 times.
Between 10 and 20, 24 times.
Between 20 and 30, 43 times.
Between 30 and 40, 52 times.
Between 40 and 50, 46 times.
Between 50 and 60, 41 times.
Between 60 and 80, 28 times.
Between 81 and 95, 3 times.

Progress.—It has already been stated strongly that nearly all perforations of the duodenum will prove fatal from a generalized peritonitis unless surgical intervention should relieve the patient. What this consists of, what are its results and its difficulties, will be considered a little later. At present one must take account of the somewhat encouraging fact that all duodenal ulcers do not go on to this severe complication of perforation. At 70 autopsies, Perry and Shaw found decided evidences of repair in nearly 50 per cent. of the cases, and Collin also recorded 39 instances of cicatrized ulcerations. These cured ulcers may prove innocuous but they can, as in the stomach, narrow to a dangerous degree the lumen of the intestine and even encroach on the bile opening, or make such traction on it as to bring about gastric and hepatic dilatations. Some of the most brilliant surgical triumphs have been obtained in relieving such obstructions.

Symptoms.—As shown by Schwartz, symptoms of a non-perforated duodenal ulcer are frequently very slight. In 20 out of 25 instances of perforation the patients were in apparent good health or so slightly indisposed that they had not consulted a physician. In only 5 patients were there previous stomach symptoms; of these one was thought to have dyspepsia, and two to have a gastric ulcer. In my own collection of 51 cases, treated by operation gastric symptoms previously existed in 25 out of 34. The usual signs may be given as follows:

Pain, when characteristic, occurs several hours after eating and may be slight or severe and present itself just below the gall-bladder and may reach to the median line or to a level with the navel. Many times the pain is absent. Beckmann in 80 cases found 16 in which little or no pain existed. Pressure, particularly over the region to right of the twelfth thoracic vertebra, occasionally elicits pain. Swallowing of a sour lemonade or a strong alcoholic drink may arrest the pain by bringing about a pyloric contraction, but Pagenstecher[15] denied the value of this test.

Vomiting is present in about 17 per cent. of the cases but it is of a reflex character. It is of diagnostic importance if, like the pain, it shows itself from an hour or so up to several hours after a meal and the matters rejected are broken-down food often mixed with bile and blood. The right shoulder pains are noted by Schwartz as occasionally to be recognized. According to Vonwyl and Buequoy, the pains are often slight from the comparative immobility of the duodenum and vary from queer indescribable sensations to severe radiations of distress. Vomiting when it occurs relieves the pain.

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Jaundice if present, which is rare, may be due to simple duodenal tumefaction or to cicatricial contraction of the papilla.

Hemorrhage is to be expected in about one-third of the cases of non-perforating ulcers. Probably it is even more frequent than this as Oppenheimer found blood in the stools of one-half of his 34 cases, and Krauss says it occurs even more frequently than in this ratio. This bleeding can be severe and show itself by mouth as well as per rectum. It can speedily prove fatal as larger vessels are opened than by a gastric ulcer. Usually the blood is discharged from the bowels in a tarry condition which bespeaks a high origin of the hemorrhage and an exposure of some duration to the action of intestinal secretions. This is spoken of as melena. Its color may be, however, a bright hue, and recently, with Dr. Peabody, the question of the presence of a duodenal ulcer in a patient with intestinal hemorrhage and right-sided epigastric pain and distress sometimes after eating was negatively decided because the blood discharged per anum was of a bright red color and unclotted. As the patient, moreover, had hemorrhoids the possibility of this origin led to the confusion in diagnosis. This escape of fresh blood unchanged in the bowels is recognized by Vonwyl and some emphasis should hereafter be placed on this possibility. The profusion of the hemorrhage may be much beyond that encountered in gastric ulcer, for larger vessels may be involved. Collin gives 12 instances in which the blood came from the pancreo-duodenal artery; three times the gastro-epiploica dextra was opened into; twice, the pancreatic artery; the aorta twice; the vena porta twice; the hepatic once; and once the superior mesenteric vein. Pagenstecher states that the ulcers on the posterior wall are more apt to bring about hemorrhage than the anterior ones as the vessels are more abundant and larger there. Burwinkel[16] says that, excepting in vicarious menstruation and typhoid fever, intestinal hemorrhage in large amounts is very rare and should excite suspicion of gastric or duodenal ulcers. This writer, in spite of all that has been advanced by Nothnagel, Ewald, Lemke, and latest of all, Kinnicutt,[17] that in the great majority of cases a differential diagnosis from gastric ulcer is impossible, claims that by a careful study of the symptoms he has been able to diagnose 5 cases of duodenal ulcers in the last five years.

The following contrasting symptoms have been grouped by Vonwyl as an aid to this end: *Gastric ulcer:* (1) More frequent in woman, 25th-50th year. (2) Pain promptly after eating. (3) Relieved by vomiting. (4) Frequent biliary, mucous, and food vomiting. (5) Marked dyspeptic symptoms. (6) Frequent bloody vomiting. (7) More seldom bloody stools. *Duodenal ulcer:* (1) Occurs most frequently in males. (2) Pain in right hypochondrium or to the right of parasternal line. (3) Comes on 2-4 hours after meals. (4) No relief by vomiting; latter not frequent. (5) Bloody stools (melena or bright blood) more common than bloody vomiting. (6) If jaundice is present this would contribute to the diagnosis.

That medical and surgical education in this line is progressing has also been brought out in the cases of operations which form the basis of this paper. Here it will be seen that, notwithstanding that the greater part of them have been treated as of appendical or other origin, surgeons, awake to the possibilities of the case, are making shrewder diagnoses and the reproach which was good up to a year ago, that no operation for a previously recognized perforated duodenal ulcer had yet been performed, no longer holds good. It may be expected that as the detection and treatment of a perforated gastric ulcer has so rapidly and so satisfactorily progressed, from 1892, when the writer was only able to add to his first operation of this kind but 4 other instances, while now over 100 cases each year are operated on with a mortality that has fallen (if operated on within 12 hours) from 39 per cent. to 17 per cent. (Keen[18]). The picture is a far different one when the duodenal ulcer perforates, and, anteriorly, which is the most common site of this complication. Here there is usually no withholding adhesion, and a rapid invasion of the peritoneum is probable.[19] If the stomach is yet filled, the extravasation may take an anatomical course somewhat in the order spoken of by Pagenstecher, and which is in accord with my own analogous clinical experience in 3 perforations of the gall-bladder. Fluids escaping from the duodenum or gall-passages flow at first between the liver and the colon and thence along the ascending colon toward the iliac fossa; from this point it may pass over to the sigmoid flexure or into the pelvis. Given, therefore, such a free course and with a plentiful pouring out of an acid fermenting food and gas through a direct although small (2 to 8 mm.) opening, the symptoms presented would naturally be severe.

Great *pain* is usually felt at the epigastrium or to the right of this region. As was noted here 26 times in 47 of my cases, it has a few times been observed at the umbilicus and in the left side; but in 23 others of the 47 instances it was simply recorded as abdominal pain. Vomiting often follows the attack of pain. It occurred in 28 out of 34 instances. Shock is not often met with but may be severe and fatal. Peritoneal symptoms rapidly develop with a tendency in some cases to be localized in the upper part of the abdominal cavity and in the right side; when these signs show themselves mostly to the right and at or below the level of the umbilicus, the picture necessarily simulates an appendicitis. When the liver dulness has been dissipated up nearly to the mammary line, air extravasation may be suspected, and, when accepted as present, it will aid in concentrating the diagnosis. The symptom of liver resonance, unless marked, is so often found to be due to a distended colon that it should not be much relied on.

In considering the diagnosis of a perforated duodenal ulcer as just given, I cannot but feel

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that more weight and attention should be given first to the previous history, which shows, contrary to the opinions of many previous observers, that in the 51 collected cases of operations for the relief of such conditions there was a history of gastric or dyspeptic symptoms given in 25 out of 34 instances, where this point was noted; secondly, and also important, is the fact alluded to on a previous page that the initial or early pain was developed in 26 instances out of 47 in the epigastrium; and in the right hypochondrium 13 times. The third factor of value in the diagnosis, as well as the treatment of the symptoms of perforation peritonitis, whether from stomach, duodenum, gall-bladder, appendix, or any other part of the intestinal tract, is the early resort to an exploratory incision. This need of an early solution of the site of a perforation has been clearly shown in the cases of a gastric perforation in an article[20] embracing 78 cases operated for this trouble. The mortality clearly depended on whether the patient underwent surgical intervention within 24 hours from the inception (*i. e.*, the pain) of the perforation. This is yet more strongly marked in the latest collection of this class of troubles by Mayo,[21] who states that in 429 cases of gastric perforations those operated on in the first 24 hours were 82 where 47 recovered; 35 died (42 per cent.); and that in operations done after that period over 70 per cent. of the cases died. In duodenal perforations the same outcome is observable. In the 51 collected cases of duodenal ulcer perforations herewith presented, there were 25 cases where the lesion was recognized and closed at the operation; of these, 13 underwent operation after 30 hours delay and all died; of 12 others operated on within that time 8 survived, giving thus only 33.3 per cent of mortality. *Only*, I say and with much satisfaction, since it marks an improvement on the statistics of Pagenstecher, which gave a mortality of 60 per cent. in the found and sewn up duodenal ulcers that he had collected. Of equal value as illustrating the increasing alertness of the surgeon is the fact that prior to 1895 in the 28 cases reported up to that time in which laparotomy was done, in 15, or 75 per cent., the ulcer was not found; in 5, or 25 per cent., it was found and sutured. In only 2 cases, or 10 per cent., was the possibility of a duodenal perforation considered. Contrast this with the 31 cases operated on since 1895, when the surgery of gastric ulcer began to be developed. Of these 31 cases the perforation was not found in only 11 per cent. It was found and sutured in 20 cases, or 65 per cent. Its presence was considered in diagnosis in 11 cases, or 35 per cent.

Another indication showing the advance in surgical art is the circumstance that it has been possible in 13 of the more recent instances to either arrive at a correct pre-operative diagnosis or to make the alternative diagnosis varying between a duodenal and a gastric perforation. The difficulties that have been experienced are succinctly shown in the following statement:

Diagnosis Wrong: Ulcer Not Found.—Diagnosed as acute peritonitis, 8 times; as appendicitis, 15 times; as intestinal obstruction or appendicitis, 1 time; as strangulated hernia, 1 time; as hydronephrosis, 1 time; making a total of 26.

Diagnosis Wrong: Ulcer Found.—Diagnosed as acute peritonitis, 5 times; as intestinal obstruction, 4 times; as appendicitis, 3 times; total, 12.

Diagnosis Right or Approximately So: Ulcer Found.—Diagnosed as duodenal ulcer, 5 times; as gastric or duodenal ulcer, 6 times; as appendicitis or duodenal ulcer, 2 times; total, 13.

For the treatment of a duodenal ulcer the medical means applicable to the management of a gastric ulcer also hold good. It is but seldom that surgical aid is called for before perforation has occurred, but the cases reported by Codevilla[22] are of much surgical interest and instruction. This surgeon, for the relief of symptoms that fairly well pointed to an intractable duodenal ulceration, resorted to a gastro-enterostomy in two cases with a cure as the result of his intervention.[23] In some cases of perforation the shock and progress of the infection are so rapid as to bring about death in a few hours. Stevens[24] quotes a case where a fatal issue occurred within 21 hours after the first symptom (sudden pain) had shown itself.

Where the diagnosis has happily been narrowed down to a perforation of either the stomach, duodenum or gall-bladder, the incision to be advised is in or along the edge of the rectus muscle, 4-6 inches in length, and starting rather low down on the abdominal wall, so as not to reach much above the liver edge, but to extend far enough downward to easily get below the transverse colon which might be necessary. Supplementing this incision in its upper third, another transverse one in the skin to the left or toward the median line is advisable. This will permit the cross division of the fascia covering the right rectus muscle, which is in turn to be pulled to the left when its posterior sheath with the peritoneum is also to be divided. This gives a satisfactory and largely increased exposure of the parts beneath, and the subsequent suture of the upper and lower sheath of the rectus, with the full replacement of the muscle, adequately restores the integrity of the abdominal wall. This incision I have used many times in operations on the gall-passages and in numerous instances of suppurating appendicitis when increased space was necessary.[25]

If gas or food material escape when the abdomen is opened the surgeon's action is rendered more certain, and a rapid and thorough inspection, after wiping away any obscuring fluid, of the gall-bladder, duodenum and the anterior walls of the stomach, can be disclosed. If nothing is visible in these regions, the examination of the posterior gastric wall can be accomplished by either tearing through the gastrocolic omentum, or by turning up the omentum and large

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bowel and entering the lesser omental cavity through the mesentery as in posterior gastroenterostomy. From the lower end of this wound, which is large enough to admit the hand, in many instances the appendical region can be explored if it should be necessary, although probably if this should be involved a separate incision might be more suitable. If a duodenal perforation exist it will generally be found on the anterior wall of the duodenum as a small round opening, rarely beyond one-fourth of an inch in diameter, with comparatively thin edges and rarely adherent to any adjacent intestine. Gas or fluids have frequently been seen passing from the opening and occasionally bile, which latter may also stain the peritoneal extravasation. Mayo has suggested that an acid reaction of the peritoneal effusion might help in suggesting, prior to its discovery, a gastric or duodenal opening, but, as the inflammatory effusion rapidly neutralizes the stomach acidity, this will seldom be of help.

Since several of the collected cases have shown in the abdominal extravasation the presence of recognizable medicines, such as castor oil, etc., given erroneously to move the bowels, it may be considered worth while to utilize the fact and to give prior to the operation a certain amount of methylene blue or other innocuous colored solution to aid in the detection of the opening. When found, the perforation should be closed by a double or triple row of interrupted sutures. No attempt should be made, in my judgment, to excise the ulcer before suturing. This takes too much time, and the results in the collected operations show that in 7 out of 9 of the successful cases suturing alone was relied upon. In one only was excision and suturing employed, and in one other case the ulcer was closed over by suturing over it the duodenum, colon and stomach. This experience is confirmed in the large number of gastric perforations that have been treated up to date.

The suggestions given by Pagenstecher for the conduction of this operation are worthy of remembrance. They are that the fundus of the gall-bladder when distended lies in front of the duodenum. By raising up the transverse colon, which rests somewhat in front of and below the horizontal part of the duodenum and by drawing it forward, this portion of the intestine is immediately revealed. Crowding the stomach and pylorus to the left and a little downward with lifting up the liver and pushing the colon down, a good view of the locality of a perforation is obtained.

The closure of the perforated intestine, however, leaves much of the battle for life unfinished. The proper and systematic cleansing of the peritoneum is of the utmost importance. If the extravasation is limited, careful wiping out of the affected portion of the peritoneal cavity with especial attention to the retrogastric and suprahepatic spaces and to the splenic and renal region, with ample gauze drainage will in most cases suffice better than the large warm irrigations of sterilized salt solutions which are, I think, more suitable in extensive or general peritoneal inflammations.

For those who favor multiple incisions and large irrigations the specific directions of Lennander[26] are of value. In suitable cases and in patients of sufficient vitality, he considers that irrigations with water at 104° F., through several incisions, the best method of cleansing the peritoneal cavity. One must go carefully and methodically about the solar plexus and the diaphragm; methodically loosening adhesions, irrigating, and then wiping clean with wrung-out gauze. He begins with the upper surface of the liver, particularly on both sides of the suspensory ligament; then passes between the liver and stomach to the triangular ligament; then around the cardiac portion; then between the stomach and spleen; then under the diaphragm to the left kidney, and along the spleen to the ligamentum phrenocolicum. The division of the triangular ligament with a thermocautery has been suggested, so that one might sweep around the left lobe on both sides. He then cleans between the right kidney and liver, kidney and colon, colon and liver; next the lumbar regions and both iliac fossæ; then both sides of the mesentery of the small intestine, and last the pelvis, which is often infected at the beginning of the trouble. A great quantity of hot fluid is of undoubted benefit in the pelvis. Drains and tampons are intended to remove accumulating fluids as well as to shut off infected areas. Tubes surrounded by gauze are the best drains. He places sterile gauze on both sides of the suspensory ligament of the liver and between the liver and diaphragm. Drains should be placed in both lumbar regions, the left passing alongside of (better through) the phrenocolic ligament external to the spleen to the middle of the diaphragm. The right one passes to the duodenum. The pelvis of men is drained above the symphysis pubis, that of women through the vagina.

My own experience in the surgical treatment of duodenal perforation is confined to one case which is briefly as follows:

Perforation of Duodenal Ulcer; Laparotomy; Suture; Death.—Man, aged thirty years, who had previous symptoms, confusedly detailed, of gastric disturbance but not of hematemesis for several months, was seized 4 days previously with severe epigastric pain, chill, fever, repeated vomiting and great prostration. No blood expectorated or dejected. His abdomen rapidly swelled and became generally tender and painful. On entrance into the New York Hospital, April 30, 1899, nothing could be made out by palpation save that the liver dulness was nearly obliterated. The abdomen was very tympanitic and no special point of tenderness or dulness was observed. He also had a double hernia. On the right side there was a protrusion of intestine beyond external ring. The pulse was 140, and

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the temperature 104° F. Diagnosis, a general peritonitis from a gastric or duodenal perforating ulcer was made. A large median incision was made with the umbilicus in center for general exploration. The fingers showed nothing at the rings or at the cecum, and then, on carrying the examination upward, a minute, sharply-defined perforation, one-fourth in. in diameter, was found on the anterior wall of the duodenum near pylorus, out of which was oozing some brandy and water given just before chloroformization. This was sutured with a double row of Lembert sutures and peritoneal cavity systematically and carefully washed out with sterile salt solution. The patient was returned to the ward in bad condition. Salt transfusion, 75 oz., etc., were employed, but the patient succumbed shortly after the operation.

The autopsy showed the perforation to be in the duodenum just below the pyloric termination and in its superior anterior wall. Within the bowel was a deep ulcer at the bottom of which had occurred the perforation.

Later Effects of Duodenal Ulcer and Operation for Same.—There yet remain a few words to be said about the late consequences of a healed duodenal ulcer. The resulting cicatricial contraction may bring about stricture of the duodenum and dilatation of the stomach, and may by traction or primary ulceration damage the bile entrance to the intestine. Several interesting surgical cases have been reported where relief has been afforded by such circumstances. Pagenstecher quotes a case by Lange[26] where a gastroenterostomy was successfully resorted to for contraction of the duodenum, to the hardness and size of the finger, 3 c.m. from the pylorus with dilatation above of the duodenum and stomach.

Codevilla[27] details a more acute case with ulcer and stenosis of the duodenum and dilatation of the stomach. The duodenum was found at the operation markedly stenosed, as in Lange's case, and a gastroenterostomy was performed with a successful and permanently good result.

Carle[28] had a similar case in the front part of the duodenum, but the gastroenterostomy resorted to ended fatally. He also reported another instance where great emaciation and stomach dilatation demanded surgical interference. The first and second parts of the duodenum were found strongly contracted but with atrophic thin walls. Gastroenterostomy was employed with success; death one year later from lung tuberculosis.

Rewidzow[29] also cites a case which is doubtfully placed among these, as the locality of the stenosis following bloody vomiting and gastric disorder for 20 years was shown at the operation to be below the bile papilla where a stenosis existed. For this a gastroenterostomy was successfully resorted to.

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[19] It should also be remembered that generally the duodenum in its first part is free and covered by peritoneum, so that extravasation is likewise possible through a perforation in this region. It is, however, more likely to enter the omental bursa (lesser omental cavity) or invade the retro-peritoneal tissues.
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(To be Continued.)

THE PRESENT STATUS OF RECTAL SURGERY.[1]

BY JOSEPH M. MATHEWS, M.D., LL.D.
OF LOUISVILLE, KY.;
PRESIDENT OF THE AMERICAN PROCTOLOGIC SOCIETY.

PERMIT me to thank you for the honor that you have conferred upon me in electing me to the position of presiding officer over this, your first meeting as an organized body. For over twenty years I have been impressed with the importance of the affections which you are here to discuss, and it is very meet and proper that an association should be formed bearing the name of this one. During the time mentioned I have seen this important branch of surgery wrested from the hands of the quack and pretender and placed where it rightfully belongs—and to-day no book on surgery is complete unless a fair exposition of the merits of proctology is given. Every special work, whether dealing with disease from a medical or surgical standpoint, must contain a chapter devoted to these diseases. The general surgeon, who in the past gave but slight attention to their consideration, recognizes the importance now of giving to them more careful attention, in order to be successful in their treatment. The practitioner of medicine has come to realize that the many diseases which fall under this head are not only often distressingly painful, but may endanger the life of the patient; that many conditions, puzzling in their nature, may exist, which can be accounted for by reflex action from this part of the body. Some men of ability have deemed this class of disease of sufficient importance to make their treatment a specialty, while others combine their consideration with

[1] President's Address.

some other branch of surgery for special consideration. This, I say, is very gratifying to me in that for many years it has been a pleasant duty with me to plead for their recognition by the regular profession.

Up to a decade or two ago the works on general surgery were wonderfully deficient in the way of giving any real information concerning this important class of disease, so it was no wonder that the reader gained nothing in perusing the pages bearing on their treatment. The consequence was that the general profession was almost without literature on the subject save what could be found in a limited number of special works. Therefore, people so affected sought refuge at the hands of men outside the profession, who lured and enticed them by glaring advertisements in the daily press, or by circulars. I am sorry to add that some recent works on surgery give but little information or space to the consideration of these diseases. For instance, one of the most recent books issued on general surgery has this to say in regard to fistula in ano: "The operation for fistula in ano consists in inserting a grooved director into the external opening and pushing it through the sinus until the distal end can be felt in the rectum, then divide with a sharp knife all the tissue above the director." Now, in truth, not one in twenty cases would be cured by following these directions.

In a splendid surgical work just issued appears these words in dealing with the same affection: "Fistula in ano seldom needs operating upon as most all these cases are of tuberculous origin." What a remarkable statement. If taken as a fact, consider how many hundreds of people would go without an attempt to cure them, when they could be easily cured. Not only is the first part of the statement incorrect, but even if it were correct, in the light of modern pathology, these are the patients above all others who should receive prompt attention. Many persons have been prevented from having general tuberculosis by having a tuberculous fistula eradicated. But these cases constitute but a small percentage of this class. The fact that many medical colleges have established a Chair devoted to the teaching of this class of disease and that all post-graduate schools teach them clinically leads us to the hope that all such false doctrine will be corrected. The literature on this special branch, furnished by the members of the Association, will bear good fruit in this line.

Special works too have emanated from your pen and to-day they are used as text-books in the schools. Indeed, the student demands that his instruction in this branch shall equal that given in gynecology, diseases of the eye, ear and throat, genito-urinary, or any other branch.

Shall the treatment of these diseases constitute a specialty? Fifty letters a year is a small estimate of the number of letters that I receive saying that the writers desire to make diseases of the rectum a specialty. I confess that I am at a loss to know how to answer them. In the first place, the writers are very, very busy men, for they usually state that they have but two or three weeks to devote to the matter. Considering the many diseases which make the rectum an abiding place, all having a different pathology, and a number requiring not only careful, but skilful and dangerous surgery, I say that it would be a difficult task to elucidate the whole subject in two or three weeks, granting that I had the ability to do so.

Please permit me to say most emphatically that, in my opinion, no one should think of entering a specialty of any kind in medicine or surgery who has not been in general practice for five or ten years, preferably the latter. Again, the term specialist naturally implies authority, and certainly no one can be an authority on any subject surgical who has not given that subject long and careful study, and has had abundant opportunity to profit by clinical instruction.

The bane of specialism to-day is the "blooming out" of a class of men to practise specialties, who have no practical knowledge of the same. Such action should receive the strongest censure from the entire profession. What right have these men to claim a knowledge above their fellow practitioners? Their practices are on a level with that of the charlatan, and should be so treated. What right has such a man to endanger the lives of innocent but confiding patients—victims would be a better word—by such outrageous conduct. For the protection of women and children, at least, let all such pretenders be ignored.

I take it that the object of this assembling together is mainly to encourage the better understanding of these diseases by the reading of papers and the free discussion of the same. If you will permit me, I would suggest that the membership be made up of those who desire a better knowledge of proctological subjects, whether he be a general or special surgeon, a gynecologist or obstetrician. Indeed, it is by the diffusion of such knowledge in a general way that we are to profit. Considered from a special standpoint it might be well to try to demonstrate that it is just as difficult to excise a rectum as it is to remove an ovary; that it requires as much surgical knowledge to anastomose the colon around a stricture as it does to sew up a lacerated perineum; to do a colopexia as to remove a fibroid tumor; or to do a colostomy properly as to do a trachelorrhaphy.

In regard to the papers read before this society I would suggest that they be in strict conformity to subjects proctologic. The domain of other special societies should not be invaded by your discussions. Let members of other special associations join you, but more for the purpose of hearing these subjects elucidated by men who have given them special study. If you should desire information concerning genito-urinary, gynecological or other special departments you should attend their organizations. They will re-

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turn the compliment, I am sure, by listening to you. If they expect to do rectal surgery they will profit by your deliberation; if you expect to combine genito-urinary, gynecological or other work with ours, you will profit by listening to them. A fair and equal exchange, I imagine.

In a word, I take it that this society is not to be composed of men who limit themselves to the practice of rectal diseases only, but to a membership desiring to become better posted in the treatment of this class of disease. Whether a man shall limit his practice, and how, is his own concern, but this body has a far more definite object to attain. Let us do this with a spirit of great friendliness for our neighbor specialists, feeling that it is the relief of suffering humanity that we desire, and not personal aggrandizement.

Taking this as your first real meeting, permit me to congratulate you upon this auspicious beginning. Let your standard be a high one, and in this connection I beg to make the suggestion that you should consider the propriety of annexing this Society as a Section of the American Medical Association. Members of this great body are anxious always to hear papers and discussions on all subjects when in attendance on that body. Surely yours would be a great acquisition to the mother society, and many who attend it are interested in this special branch.

I would warn you concerning application for membership. Your rules should be the more rigid for the reason that many unethical men have in the past been engaged in this special work. Then, too, a specialty oftentimes becomes a "fad" and the temptation to overstep the bounds of decency inviting. I would call your attention to Article I., Section III., in the code of ethics of the American Medical Association, and a rigid adherence to the same should be demanded of all applicants for membership in this body:

"It is derogatory to the dignity of the profession to resort to public advertisement or private cards or hand-bills inviting the attention of individuals affected with particular disease, publicly offering advice and medicine to the poor, gratis, or promising radical cures; or to publish cases or operations in the daily prints, or suffer such publications to be made; to invite laymen to be present at operations, to boast of cures and remedies, to adduce certificates of skill and success, or to perform any other similar acts. These are the ordinary practices of empirics and are highly reprehensible in the regular physician."

I see before me men rich in fame and to whom the profession is indebted for valuable research. New instruments, new operations, scientific and original investigations, learned articles, are accredited to you. Let this Association be an inspiration that will keep your zeal aways keen, and your energy undiminished.

After twenty years or more of work along this special line I now see and feel a glad fruition of my hopes, and I am encouraged as I have never been before. I realize too that a few more years will let me "out of the harness," but my consolation is that I will leave the work which has so interested me in abler hands than mine, and that in a humble way I have aided some in the relief of suffering humanity. God speed you, Gentlemen.

MEDICAL PROGRESS.

Bichloride Baths in Variola.—Thirty-six cases of variola, of which one was hemorrhagic and thirteen confluent, were treated by H. A. Ingalls (*Jour. Am. Med. Assoc.*, April 28, 1900) by means of bichloride baths. The baths were given with the idea of lessening the stage of pustulation and the consequent pitting, in the belief that the ordinary pus cocci in the pores of the skin caused the pustulation. The resulting diminution of the pustulation and pitting, of the disagreeable and peculiar odor of the disease, and of the distortion of the features at the beginning of the disease, and the fact that the patient was rendered more comfortable, without any opium, were so encouraging in the first case in which the baths were tried that they were used in all the succeeding cases. The baths were given in the following manner: A bathtub placed at the side of the patient's bed was filled with a solution of bichloride—1 to 10,000—at a temperature of from 103° to 105° F. The patient was then placed in the tub, his head and shoulders being kept above the solution, and the whole body was gently rubbed with a soft cloth. The patient remained in the bath for about ten or twelve minutes, and was then carefully dried, put in clean clothing and placed in a clean bed. These baths were given night and morning. Immediately after the bath the patients felt more comfortable, but in a little while there was a burning sensation "just beneath the skin." For this disagreeable sensation the writer anointed the patients immediately after the bath with a mixture of carbolic acid, bismuth subnitrate and olive oil, which did away with this uncomfortable symptom. The writer thinks that this bichloride-bath treatment is the best yet presented, and cites in detail four of his thirty-six cases. From his observations in these cases he comes to the following conclusions in regard to this treatment: (1) There is practically no mortality. (2) The suppurative fever can be shortened four to six days if the patient is treated from the onset. (3) A minimum of pitting is secured and an almost entire absence of the characteristic, disagreeable odor. (4) The period of desquamation is materially lessened, owing to the thinness of the scab formation. (5) Pain is much reduced, morphine being rarely indicated. (6) The great distortion of features, which gives us such repulsive looking patients, is eliminated to a great extent.

An Early Sign of Tuberculosis.—T. F. Harrington (*Jour. Am. Med. Assoc.*, April 28, 1900) calls attention to the occurrence of a widely dilated state of both pupils as an early sign of tuberculosis. This dilated state is not a paralysis of

the pupils, but rather a condition in which the pupils are in a more or less constant state of dilation, due to some irritation along the track of the nerve-fibers in the ciliospinal region; or perhaps an irritation of the sympathetic, brought about by some blood-change associated with very early tubercular infection not yet fully recognized. The writer has often noticed this condition of the pupils in persons apparently well, and also in others in whom there was no reason for suspecting tuberculosis; and so frequently has tuberculosis followed at a later day in these same persons that he has come to associate widely dilated pupils with incipient tuberculosis. The writer admits that, while he has observed this sign very frequently in cases which afterward developed tuberculosis, it is not infallible, and it may occur in some persons in whom tuberculosis never develops, and again it may never appear in persons who do develop tuberculosis. While the value of this premonitory sign has yet to be confirmed, the writer has become more guarded in giving a prognosis in those cases in which such dilation of the pupils is present.

Diagnosis of Pernicious Anemia.—A. Abrams (*Med. Rec.*, April 28, 1900) reports two cases in which the diagnosis was difficult by clinical signs on account of the prominence of stomach signs. In both cases there was a marked progressive anemia and emaciation with gastric irritability. In one case vomiting was almost a daily occurrence and an examination of the vomitus invariably demonstrated the absence of hydrochloric acid and the presence of lactic acid. In the other, test-meals gave the same results. There was considerable tenderness and resistance in the epigastric region and in one patient a ventricular dilatation was made out. An examination, however, of the blood made the diagnosis of pernicious anemia certain, both normoblasts and megaloblasts being present. The leucocytes were reduced from one-third to one-half the normal number, and the author believes this to be an important sign. He quotes Cabot as saying that "malignant disease may bring down the blood-count to 1,000,000 or lower, but in such cases leucocytosis is always present." Both of these cases were treated with Fowler's solution and bone-marrow, but the latter was discontinued on account of its irritant effect on the stomach. Fowler's solution was increased to twenty minims three times per day and both patients improved markedly. When arsenic cannot be given by the stomach it may be administered subcutaneously or even by the rectum. Iron is useless and liable to create digestive disturbances. Relapses are best prevented by minute attention to dietetic and hygienic details.

Antitoxin in Diphtheria.—J. E. Herman (*N. Y. Med. Jour.*, April 28, 1900) defends one of his recent articles on the uselessness of antitoxin which was severely criticised in the *International Medical Magazine* by Dr. A. Robin. He brings forward further proof to show that the apparent decrease in death-rate since the use of antitoxin is largely due to the fact that the epidemic has recently been of a milder nature and that many more cases are treated for diphtheria than formerly, a goodly proportion of them being, no doubt, non-diphtheritic. He further maintains that the Klebs-Loeffler bacillus has no etiological relation to diphtheria and that it is frequently found in normal throats. He quotes Winters of the Willard Parker Hospital as saying, "Thus far I have no reason to feel that antitoxin is of any service in diphtheria in this hospital."

Hydrochloric Acid and Indicanuria.—A report of the examination of one hundred and sixty-four cases appears in the *New York Medical Journal* (April 28, 1900) by A. A. Jones, who has been led to believe by his investigations that the presence of free hydrochloric acid in the stomach does not bear such a definite relation to the presence of indican in the urine as has been supposed. He examined eighty-five cases showing free acid and no indican, thirty-six cases showing free acid and indican present in the urine, twenty-five cases showing no free acid and no indican, and sixteen cases showing no free acid with indican present in the urine. It now seems settled that indican is a product of putrefaction of albuminous matter, especially in the small intestine, caused by bacterial action, but it is doubtful how much influence the free hydrochloric acid of the stomach has. Wendt, after observing Schlatter's case of complete extirpation of the stomach, concludes that the chemical functions of the human stomach may be completely and satisfactorily performed by the other divisions of the alimentary canal and that the free acid of normal gastric juice has no power to arrest putrefactive changes in the intestinal tract. Its antiseptic and bactericide properties have been overestimated. It would appear that as long as sufficient acid *is* secreted to satisfy the nitrogenous elements, and the total acidity of contents is not much diminished, putrefaction is not liable to arise, despite the fact that free acid is not present. The bile, the pancreatic secretion and the *succus-entericus* all have, no doubt, an antiseptic action and the epithelial lining may possess an inhibiting power. In other words, if the albuminous elements undergo digestion they do not putrefy, and in many cases indicanuria is an index to the adequacy of intestinal digestion without regard to the state of the stomach.

Diagnosis of Hysteria.—According to C. W. Burr (*N. Y. Med. Jour.*, April 28, 1900) the best definition of this condition seems to be that of Möbius, "A state in which ideas control the body and produce morbid changes in its functions." The diagnosis is made by discovering symptoms peculiar to it and by exclusion—by proving the absence of any other condition. The mode of onset and the grouping of symptoms is important. Violent contractions may come on suddenly after a fit or follow some emotional excitement. This never occurs in organic paraplegia.

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The grouping is often characteristic, sometimes only one symptom being present, as aphonia, the fit, a palsy or an hysterical joint. A symptom group such as hemiplegia, hemianopsia, and aphasia, which can be explained by locating the lesion in a particular joint, does not occur in hysteria. One may have monoplegia, and geometrical anesthesia, in which nerve boundaries and spinal levels are entirely disregarded, and segments or areas of a peculiar shape are involved. Its boundaries may shift from day to day, and it also differs from organic anesthesia in sometimes being unknown to the patient. An hysteric who is totally unable to tell when she is touched or pricked may be able to write or use the hand in any way when blindfolded. There is no satisfactory explanation of this peculiar condition. The exciting cause is also important. Some emotional or mental shock is almost always the direct agent—a cross, an accident, a disappointment, or worry. The anesthesia may be total, in which case there is insensibility to all forms of stimuli, or it may be partial, the order of the latter being analgesia, thermo-anesthesia, electro-anesthesia, and loss of all sensibility except to heat and to cold. Hyperesthesia over large or small areas is also common. They may appear anywhere, but most frequently over the ovaries, along the spine, on the breasts, just below the ribs, and at the vertex of the skull. One of the most interesting hyperalgesias mimics inflammation of joints, the hip and knee being most prone to be affected. There is never deformity of joint, shortening of bone, or evidence of pus. The diagnosis of the fit may not be easy, for the symptoms are not always clear cut, and may resemble those of epilepsy or the two conditions may be combined. Usually after some mental worry or excitement the body becomes rigid for a few moments, then a violent general chronic convulsion follows, the movements seeming almost willed and conscious. The tongue is rarely bitten, the sphincters are not relaxed. There is no asphyxiation as in epilepsy. Coma is never present but consciousness is always disturbed. In epilepsy defecation or micturition often occurs during the attack. In hysteria large quantities of pale limpid urine are passed after the attack. The paralysis of hysteria can usually be easily differentiated. It may be either spastic or flaccid. Great local wasting never occurs, and the reaction of degeneration is always absent. True palsy of the bladder never occurs, but there may be retention and obstinate constipation. The knee-jerk is usually exaggerated. One type of flaccid palsy peculiar to hysteria is that the patient may be able to keep the completely paralyzed part in any position in which it is passively put.

Cancer of Stomach in the Young.—Cancer appearing in cases under twenty years of age are clinical and pathological curiosities, but those which occur between twenty and thirty, although not at all common and may be considered as present in the young, yet they form a rather constant percentage, ranging from two to four per cent. W. Osler and F. McCrae (*N. Y. Med. Jour.*, April 21, 1900) have reviewed the cases which have been reported under twenty years of age, there being six below ten years and only thirteen cases between ten and twenty years of age. In a series of 150 consecutive cases of carcinoma of the stomach occurring in Johns Hopkins Hospital, six of the patients were under thirty years of age and these are reported in detail. Two features stand out prominently, a striking abruptness of onset, and the acuteness of the course. All cases were in males. Loss of appetite was not present in three of the six. Only one was free from pain and vomiting was present in five of the cases as was also a definite tumor. Mathien, in his series of nineteen, estimates a mean duration of three months. In the reported series of six the duration was known in four, two being six months and two being four months. One other was probably equally rapid, while the sixth gave a history of eighteen months.

The Riding Fragment.—C. H. Golding-Bird (*Brit. Med. Jour.*, April 21, 1900) says that in fracture of the leg with riding fragment, the obstacle to reduction is not so much blood-clot, soft tissues, etc., between the tibial fragments, as it is the spring action of the fibular fragments which are driven into the surrounding fibrous tissues. Attempts to reduce the tibial deformity increase the spring of the fibular, this being more especially true in cases of spiral tibial fracture. When proper manipulation fails to keep such a fracture in good position, when the fracture threatens to become compound, when there is shortening, operation should be performed not only on the tibial fracture but also on the fibula to prevent its spring action, and the fragments fixed according to the preference of the surgeon.

Bottini's Operation.—W. Meyer (*Med Record*, April 28, 1900) says that Bottini's operation for the cure of hypertrophied prostate has come to stay. What remains to be done is to find its proper place among radical procedures and to determine its proper indications. The operation is performed under local anesthesia. Three cuts are made, a median, which is the most important, and a lateral one on each side. These cuts are made slowly with a white-hot blade. Preliminary cystoscopy is of very great assistance but must be dispensed with in old prostatics with chronic sepsis. The advantages of Bottini's operation are restoration of vesical drainage, disappearance of vesical spasms, improvement in general condition, cure of the generally present constipation; it shows the greatest percentage of cures with the lowest mortality. This operation should be done as soon as it becomes necessary to put the catheter into the hands of the patient himself, since the danger to life begins at this time. The presence of pyelitis is not an absolute contraindication to the operation, although it adds to its gravity.

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SATURDAY, MAY 5, 1900.

CONGRESS OF AMERICAN PHYSICIANS AND SURGEONS.

THE Fifth Triennial Session of the Congress of American Physicians and Surgeons, held on Tuesday, Wednesday and Thursday of this week, was most successful. The attendance surpassed that of any previous meeting. Of the scientific importance of the session our readers may judge from the very full accounts of the sessions of the first two days which appear in our present issue.

This triennial assemblage of the representative specialists of the country has become an important event in the medical world, and the last session for the Nineteenth Century marks the culmination of professional interest and the acme of dignified scientific influence.

The discussion on "Bacteriology in Health and Disease," at the first general session, drew out a representative audience. Unfortunately as specialism has become more and more emphasized the possibility of mutual influence has minimized. Special headquarters, special sessions, special dinners, have become the order of the day. Under these circumstances the idea of a number of short papers from leading men in their own lines at the general session, each on some living issue, is eminently a good one. When it is carried out, as on this occasion, by the selection of prominent authorities on what may be called the theoretic subjects, each on a theme that touches practical present-day medicine at an important point, a long step in the right direction, that of reversion to mutual influence, has certainly been taken. The interest of the second day's general session threatened to be marred by the unavoidable absence of Professor Osler. Dr. Weir Mitchell's poem, however, proved amply able to supply any and all deficiencies in the day's program. Those who had the pleasure of listening to its rendition by the doctor-poet himself will ever bear the memory of a rare privilege accorded in the midst of busy days, all the more memorable for the enthusiasm it aroused for a glorious, world-old profession.

Among the papers that attracted most attention were Dr. Trudeau's on "Sanitaria for the Tuberculosis," which we shall have the privilege of presenting to our readers in full; Dr. Thayer's on the "Etiology of Malaria;" Dr. Flexner's on the "Bacteriology of Dysentery," presenting the conclusions of his researches in the Philippines, and Dr. Clarence Blake's on the "Sociological Status of the Physician," a masterly essay on a most fruitful and interesting theme. Among the discussions of special interest was that on pernicious anemia before the Association of American Physicians. There seems no doubt that this disease is much more frequent in this country than is usually thought. Cases of the disease masquerade to death under the name of general tuberculosis, or sometimes as a typical persistent typhoid fever, or even as jaundice and hypertrophic biliary cirrhosis. The assurance of its greater frequency is accompanied by greater skepticism than ever in the therapeutics of the disease.

On the whole, this meeting of the Congress has been well worthy the closing year of an especially glorious medical century.

THE UNITED STATES PHARMACOPŒIA.

ALMOST one hundred years ago the first steps were taken for the preparation of a general Pharmacopœia and in 1808, through the labors of Dr. Lyman Spalding, of New York, there was issued the first National standard. For one hundred years the Committee of Revision of the United States Pharmacopœia have worked stead-

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ily and well and the recent meeting of the Convention, beginning May 2d, was one of unusual promise. The meeting was very large, the different bodies entitled to participate were well represented.

The high level of scientific work of this body during the past was ably set forth in the excellent address of the President, Dr. H. C. Wood, and the outlines of the mold in which the Pharmacopœia of the future should be cast were sketched in broad and telling phrases. Speaking of the relationship of this book to the medical body, it was said that there was a widespread feeling that the medical profession does not properly appreciate and support the U. S. Pharmacopœia. This feeling Dr. Wood believed had some foundation, but it certainly is exaggerated. "It is true that—owing to the activity of manufacturing pharmacists and the number and skill of their commercial salesmen, aided by the deficiencies of medical education and the peculiar child-like credulity which is so common in doctors—all kinds of proprietary mixtures and proprietary articles, and extra-pharmacopœial remedies are largely used in the United States. It is so easy for the lazy doctor to write for Smith's Panacea for Human Ills, and so easy for the doctor who knows neither Materia Medica nor Therapeutics to order Jones' Consumption Cure, or Thomas' Kamiantia, that so long as laziness and incompetence remain with us, so long will this thing be done. But this is no fault of the Pharmacopœia, and no perfection of the Pharmacopœia will greatly influence it."

We should feel próud of the Committee of Revision, which, under the masterly guidance of Dr. Charles Rice of New York, has given the profession such a guide, but, as pointed out in the address already quoted, there certainly seems to be a misconception as to the office and function of this book. It is not a guide to Practice, it would then have to be a Materia Medica or a book on Therapeutics. It is the apothecaries' *vade mecum,* and as such is intended primarily for them.

It is certainly the work of the trained pharmacist to give to the healer of bodily ills the best formulæ, the best simples and accurately prepared drugs. The Pharmacopœia should tell him how to make them and in that the physician has but a collateral interest, although it should be a real one: while the student of therapeutics takes that which he knows to be standard and applies such in the treatment of disease.

We shall present to our readers the able address of Dr. Wood in a shortly forthcoming issue of the MEDICAL NEWS.

SUNLIGHT AND HOME HYGIENE.

ALTHOUGH for centuries it had been more than suspected that sunlight was Nature's great disinfectant, it is only within recent years that bacteriologic investigations have shown that white light is a most powerful inhibitory agent for the growth of all forms of microscopic life. Somehow the actinic rays of white light, the same that cause the changes in the silver salts in photography, are able to initiate alterations in the chemical constituents of microbes that eventually lead to their complete destruction. Unfortunately, Nature's pervasive germicide is not allowed to penetrate into the living-room of city folk in sufficient amounts to permit the full exercise of these beneficial powers. This is true not alone in the houses of the poor, for even from the dwellings of the better class sunlight is excluded as zealously almost as if it were an instrument of harm.

The dim cathedral light that seems to many housewives the great desideratum for living-rooms is a serious preventer of important natural, hygienic processes—processes that deserve to be encouraged not obstructed. Curtains that keep out the sunlight lest it should fade the carpets or the wall-paper, or show too clearly that the housewife herself is not longer in the bloom of youth, do much more than merely darken the room. They make it a favorable living and breeding place for any bacteria that may be introduced. Hallways into which so many bacteria are brought direct from the dusty streets, instead of being the most lightsome parts of the house, are usually the darkest. Double doors and stained glass effectually preclude active sunlight.

This is not as it should be. The matter is so important that family physicians should throw the weight of their influence in favor of the greatest possible amount of sunlight in the home. For delicate children it means frequently the difference between a life free from illness and one in which delicacy of constitution becomes inveterate from recurring ailments. The improvement in health among the poor of our large cities as the result of letting in the light into the tenements shows how much good the great solar scavenger can accomplish even under unfavorable circumstances. A time will come, doubtless, when the family physician will form one of

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the family council as to hygienic arrangements of the home. Meantime, the lesson must be insisted on that sunlight cannot with impunity be denied fee entrance to the house. The orange and red stained-glass windows may give elusively brilliant color effects on hangings, rugs, and furnishings, but they disarm sunlight for its conflict with disease. They shut out the precious rays at the blue end of the spectrum, odorless, noiseless, but efficient scavengers, that do Nature's work and so make life possible for the higher organisms in spite of the multitudinous germs that exist and multiply so rapidly all around them.

ECHOES AND NEWS.

The Barren Island Plant.—Governor Roosevelt has signed the bill compelling the removal of the garbage works from Barren Island, N. Y., and the abatement of the nuisance.

Contagious Diseases.—There were reported in New York during the week ending April 28, 1900: Measles, 714 cases and 27 deaths; diphtheria, 224 cases and 43 deaths; laryngeal diphtheria (croup), 10 cases and 4 deaths; scarlet fever, 165 cases and 13 deaths; smallpox, 2 cases; tuberculosis, 202 cases and 204 deaths; typhoid fever, 10 cases and 8 deaths; cerebrospinal meningitis, 3 deaths; totals, 1327 cases and 302 deaths.

The Jacobi Dinner.—The post-prandial program of the Jacobi dinner has been arranged as follows: (1) Opening address by the presiding officer, J. D. Bryant, M.D. (2) Dr. Jacobi—the Physician, by W. H. Thomson, M.D. (3) Dr. Jacobi—the Scientist, by William Osler, M.D. (4) Dr. Jacobi in Relation to Medical Education, by Hon. Seth Low. (5) (Title to be announced.) Hon. Carl Schurz. (6) Presentation of the Festschrift, by A. G. Gerster, M.D.

The Tuberculosis Congress.—The International Tuberculosis Congress was opened at the San Carlo Theater, Naples, Italy, April 25th, in the presence of the King and Queen of Italy and the Minister of Public Instruction, Dr. Baccelli. The latter delivered the inauguration speech. United States Embassador Draper was in attendance.

Morphine Prices Lower.—The price of morphine was reduced ten cents an ounce on April 23rd. This makes the third reduction during April and lowers the price from $1.90 to $1.80. The reason for this latest decline is probably the keen competition between the old and new manufacturers.

Women at Columbia Laboratories.—At a recent meeting of the Faculty of Pure Science at Columbia University it was decided to allow women who had a baccalaureate degree in a recognized college, and were candidates for higher degrees at Columbia, to use the laboratories and other facilities of working in astronomy, botany, geology and physics. This places women pursuing graduates' courses on precisely the same terms as men.

Number of Blind Increasing.—There are 705 applications for a share in the $30,000 which is to be distributed to New York City's blind this year, and as each beneficiary is to receive $50, it is feared the money may not go around, even after the investigators have thrown out the non-resident and fraudulent applications.

Radical Changes in State Hospitals.—Four physicians who have long been identified with the care of the State's insane patients in Greater New York are summarily legislated out of office by the Burnett bill, which has now become a law, having been signed by the Governor. These men are Dr. A. E. Macdonald, General Superintendent of the State Hospital at Ward's Island; Dr. Oliver M. Dewing, General Superintendent of the State institution at King's Park; Dr. Elliot, Medical Superintendent of the old hospital at Flatbush, and Dr. Herman C. Evarts, Medical Superintendent at King's Park. It is understood at the office of the State Commission in Lunacy that for the present, however, until other arrangements can be made, the present superintendents will be permitted to retain their positions, as it is desired that the change shall in no way impair, even temporarily, the efficiency of the institutions concerned.

Philadelphia Health Report.—Returns of deaths for the week ending April 28th, show a large decrease. The total number was 618, a decrease of 121 from those of last week and an increase of 117 over the corresponding week of last year. Contagious diseases: Diphtheria, 70 cases, 21 deaths; scarlet fever, 68 cases, 6 deaths; typhoid fever, 74 cases, 18 deaths.

Maurice Porter Institution for Children.—By the increase of the staff of this Chicago institution, the facilities for the training of nurses will be improved. A two-years course of training will be given. Children are admitted only between the ages of two and twelve. This hospital was incorporated in 1894. The staff now comprises the following well-known physicians and surgeons: Drs. N. Senn, Frank Billings, Truman W. Miller, Norman Kerr, M. L. Harris, J. W. Oswald, W. S. Christopher, W. W. Quinlan, W. D. Stores, J. B. Houston, Samuel J. Walker, George F. Fiske, A. M. Hall, R. R. Campbell, M. Herzog, Hugh T. Patrick, and George Chapman.

Exhibit of Public Baths.—An exhibit of the free public cleansing baths of America will be made at the Paris exposition, under the auspices of Dr. Simon Baruch of New York. For the introduction of the public rain-bath into this country the people are indebted to Dr. Baruch; indeed, he is the originator of the plan and has

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succeeded in having them introduced in several cities of the United States. Chicago has three, Buffalo one, and New York one in process of construction. These are the only baths of this kind in the world.

Smallpox in Chicago.—It should be noted that every case of smallpox in Chicago during the last fifteen months, both the imported cases and those contracted by residents from the imported cases, has without exception been unvaccinated. There has been no case among the vaccinated. The verdict of the medical profession at the end of a century of vaccination is that, with the exception of a very small number of insusceptible individuals, every unvaccinated person would contract smallpox in the course of a natural lifetime, if exposed to the contagion, and fully one-half of those attacked would die, while of the survivors a large number would be hideously disfigured, maimed and disabled. On the other hand, if efficiently vaccinated and revaccinated, an equally infinitesimal number of hypersusceptible individuals would contract the disease on exposure, and of this small number less than one in a hundred would die. One-tenth of the human race, on the average, died annually of this disease for centuries before the discovery of vaccination, during which period, in the forcible language of Lord Macaulay, "The disease was always present, filling the churchyards with corpses, leaving on those whose lives it spared the hideous traces of its power, turning the babe into a changeling at which the mother shuddered, and making the eyes and cheeks of the betrothed maiden objects of horror to her lover."

Sanitation in Chicago.—Health Commissioner Reynolds recently addressed the Chicago Academy of Sciences at its meeting on some problems of sanitation in Chicago, and among other things he said that the sanitary problems of this city differ from those of most cities with regard to the drainage and water supply, and the fact that the loose, friable soil, on which the city is built, naturally produces dust or mud, according to the weather. The immense quantities of bituminous coal that are consumed continually adds to the impurities of the surface and the atmosphere. The solution of the drainage and water problems will be accomplished when the sanitary waterway and its auxiliary, the intercepting sewer, are completed. As sunlight is the great life-giving principle for man and the chief enemy of diseases of germ origin, greater care in the future will be taken in the construction of residences, shops and offices, so that an abundance of light will have free access to every part of the building. There is much hope for a better sanitary condition in the fact that the people are becoming better educated in the nature and prevention of disease. If the present percentage of increase in the duration of life in Chicago is kept up, the city soon will become famous as a great health resort. The bulletin of the Department of Health for April, 1899, shows that during a generation the duration of life in this city has more than doubled. Thirty years ago the average age for deaths in Chicago was 13.9 years. At the present time it is 29.4 years. With an average annual death-rate of 14.4 per thousand during the years 1894-98, compared with an average annual rate of 40.6 per thousand from 1845 to 1854, a saving of 42,050 lives per annum can be demonstrated.

Medical Missionary Work.—Medical and educational work and their connection with missions were the topics discussed at the meeting in New York on April 30th of the delegates for the Ecumenical Conference on Foreign Missions. Many of the missionaries assembled were physicians as well as teachers, and in their addresses it was made clear that a missionary, to be successful in a foreign field, must devote almost as much time to the physical as to the spiritual welfare of the people among whom he goes. As a rule, the missionaries have to content themselves with a very limited stock of medicines and few instruments, but every missionary, it seems, should have some medical and surgical training and must always be ready to undertake the cure of any disease brought to his attention.

Confidences of Physicians.—The New Haven Medical Society is aroused against a recent ruling in a case before the Superior Court in New Haven and has taken preliminary steps looking to the repeal of the law that enables a judge to compel a physician to testify to what the physician regards as privileged communications between himself and his patient. As the Connecticut law now stands, such communications are not deemed privileged and must be divulged in court as testimony. The New Haven Medical Society considers that the rule of common law should be overruled by the enactment of a statute similar to that in New York and seventen other States.

Vote against Women Nurses in Army Hospitals.—On April 24th the Senate Committee on Military Affairs, by a vote of 6 to 5, ordered an adverse report on the bill providing for the employment of women nurses in military hospitals of the Army.

Only Men Nurses for the "Maine."—It was decided in London on April 26th that the hospital ship "Maine" shall return to South Africa. Hereafter she will carry no women nurses, all the nursing being done by men trained in the American Ambulance School.

Pathology in the University of California.—Mrs. Phœbe A. Hearst has presented to the University of California a complete equipment for the department of pathology, which will make this department equal to, if not greater than, that of any university in America.

Aphasia Patient at Harlem Hospital.—Gero Martino, an Italian, was shot in the head on April 10th, and taken in an unconscious condi-

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tion to Harlem Hospital. A portion of brain tissue was removed. It was thought that he would die; nevertheless he is now convalescent. Martino has lost the use of his tongue and cannot remember things. He will probably never regain these faculties.

Smallpox in Winnipeg.—A very malignant type of smallpox is epidemic in Winnipeg, Manitoba. Eighteen cases were reported on April 27th, many of whom were not expected to survive. Health Officer Inglis believes that Winnipeg is threatened with the worst epidemic in Canada since that of Montreal in 1885.

Tuberculosis Congress Adjourns.—The International Tuberculosis Congress at Naples concluded its sittings on April 28th. An international committee will be organized by Dr. Lannelongue of France, the Duke of Ratibor of Germany and Professor Bacelli of Italy. These gentlemen will appoint an equal number of members to represent each of the the three countries.

SOCIETY PROCEEDINGS.

CONGRESS OF AMERICAN PHYSICIANS AND SURGEONS.

Fifth Triennial Session, Held at Washington, D. C., May 1, 2, and 3, 1900.

[Specially reported for the Medical News.]

GENERAL SESSION.

FIRST DAY—MAY 1ST.

Adaptation of Pathogenic Bacteria to Different Species of Animals.—Dr. Theobold Smith of Boston pointed out that medical science and medical art have to do chiefly with the phenomena of human disease. That which medical science wants to know is the series of causes or antecedents leading to any given disease and the series of phenomena which unfolds itself within the body during disease. Medical art desires to know where human ingenuity may come to modify, suppress, or eliminate portions of this series, so as to interfere with the progress of the disease and bring it to a standstill. Hygiene, by common consent, devotes itself to the external phenomena; pathology, to the internal. A small proportion of the infectious diseases of man and a large proportion of the infectious diseases of higher animals are transmissible, or at least, inoculable upon smaller animals producing in them diseases which have more or less constant characters. The range of infectiousness varies considerably and arbitrarily without any at present assignable reasons. The range of infective power seems to a certain extent to coincide with the readiness with which the bacteria can be artificially cultivated on various substrata. Or, in other words, with their degree of saprophytism. Thus, the plague bacillus, the colon derivatives, the rabbit septicemia group, and anthrax, are quite readily cultivated and their range is very wide. Investigation of infectious diseases of animal life has brought before us another phenomenon which is of considerable importance. Certain bacteria causing disease among different species have certain affinities which cause us to classify them together and which enable us, at the same time, to clearly separate them from other pathogenic groups. One of the most important of these groups consists of derivatives of the colon bacillus which produce epizootics among swine, guinea-pigs, field-mice and spermophiles which have been found associated with disease in horses, cattle and certain birds.

Outbreaks of meat-poisoning in European countries characterized by gastro-intestinal disturbance are most likely due to some forms of the paracolon bacilli and paratyphoid bacilli. The typhoid bacillus is probably a more highly modified offshoot of this same stock. There is much minor variation among these derivatives, which is probably due to an adaptation to different animal hosts. We might say that the colon bacillus or some ancestral form possessed certain qualities favorable to parasitism which have enabled it to become a prominent pathogenic power under the form of a number of varieties. The tubercle bacillus furnishes us still another illustration. The avian type has been recognized as a variety for some years. Similarly, the tubercle bacillus of cattle has certain uniform characters which have thus far been found from culture in the human subject. There is one other question which is more or less associated with the subject, the fluctuation of the virulence of pathogenic organisms and the bearing of this upon the appearance of infectious diseases in epidemic form. The commonly accepted view of the gradual self-limitation of epidemic diseases is the exhaustion of susceptible material. The recrudescence is similarly ascribed to the reappearance of a young, susceptible generation. Thus, the reappearance of the Eastern plague after an interim of months is ascribed by one observer to the new generation of rats. If we indulge in a little speculation along teleological lines we shall see that the attenuation of virus limited to one host is not an unreasonable hypothesis. We may assume that all parasitism tends toward a more or less harmless symbiosis.

The author said that he believed the great specific energy of many disease germs was acquired in early geologic ages, possibly in animals of a very different type from those now living. But it is not improbable that the process of making bacteria is going on now in the animal world, if we notice only that these bacteria have been transported by some accident from their unseen habitat to species which happen to be susceptible.

A Study of the Mechanism of Agglutination.—Professor Harold C. Ernst of Boston held that in the early observations on the agglutinating properties of the serum of immune animals the facts in the cases were developed with motile bacteria

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as with Charrin and Rogers' (1899) studies with bacillus pyocyaneus in cultures in the serum of immune animals and Pfeiffer's reaction in cholera, typhoid, etc., and it is notably the case now that the most definite reactions are obtained usually with motile bacteria. After reviewing the contributions to medical literature Dr. Ernst said that the relation between the agglutinating property and the bactericidal property is equally indefinite from the point of view of immunity. The rat, with an extremely bactericidal serum does not agglutinate at all. In the dog, also with a bactericidal serum, agglutination occurs very remarkably. Nor are the origin or chemical properties the same. The studies already made seem to show that the agglutinating property does not lie in, and is in no way connected with, the flagella of the bacteria concerned; that agglutination is not to be accepted as a specific property connected with a condition of immunity, although this is a difficult idea to give up; that a homologous nature of agglutination cannot be considered a positive characteristic, for how, then, explain the clumping of typhoid bacilli by diphtheria antitoxin. Finally, that no universally applicable explanation of agglutination has yet been offered.

Relation of Bacteriology to Clinical Medicine.—Dr. Richard C. Cabot of Boston was of the opinion that bacteriology is in closest relation with clinical medicine by the help it gives in clinical diagnosis. Such assistance is given through the demonstration of the bacilli themselves in secretions or in the products of disease; through the agglutination tests; through the injects of soluble products of the growth of certain bacilli (tuberculin, mallein). Thus far only two, or possibly three, such bacteriological tests can be said to be in general use throughout this country, *i.e.*, the search for the tubercle bacillus in sputa; the search for diphtheria in the throat, and possibly the agglutination test for typhoid. Other such aids to diagnosis which seem likely to come into more general use are the examination of the blood, the sputa, the urine, the feces, the cerebrospinal fluid, the urethral, the vaginal, the uterine secretions, the nasal, pharyngeal and conjunctival secretions. Next to typhoid, Malta fever seems at present the disease in the diagnosis of which we are most helped by the agglutination tests. To other diseases, the diagnostic assistance of the agglutination reaction has not been extended. Individual observers have reported success in the attempt to apply the serum tests to diagnosis of tuberculosis and croupous pneumonia, but the results have not been extensively confirmed. To a limited extent we are able to reverse the use of the agglutination test; instead of using the well identified bacillus to test the body-fluid of a doubtful case, we can use the body-fluids of a well identified case to test a doubtful bacillus. Of the diagnostic use of tuberculin it is only necessary to say that despite the warnings of Virchow, it has passed into general use and deserves to be utilized much more widely still. The few who object to its use are for the most part those who have not tried it. The use of mallein is well established. Statements regarding prognosis are apt to present an unrivalled material for the study of the art of hedging. Bacteriology is helping us to make our prognoses less meaningless. The clinicians realize how difficult it is to interpret the results of bacteriological examinations. For example, to draw the properly limited inference from the announcement of a positive Widal reaction, to be enough and not too much alarmed by a positive tuberculin reaction, or by the finding of Klebs-Loeffler bacilli in a patient's throat. Especially is this true where relatively indefinite quantitative expressions enter into the bacteriologist's report. Only he who makes the test can really appreciate what is meant in a given case by such phrases as "Very numerous tubercle bacilli, very virulent streptococci, very motile organisms, very numerous malarial organisms, etc."

The municipal laboratory of the city of Boston now offers to examine for physicians material suspected as coming from any of the following diseases: Typhoid, tetanus, tuberculosis, rabies, diphtheria, malaria, glanders, influenza, pyogenic organisms, gonorrhea.

Bacterio-Therapeutics with Especial Reference to Tuberculosis.—Dr. E. R. Baldwin of Saranac read a paper with this title. The author dealt with the various uses of bacteria and serums in the prevention and treatment of diseases with a more detailed account of those in tuberculosis. Living bacteria are little used except in vaccination for variola and anthrax. Dead cholera, plague, and typhoid bacilli are useful in prevention, but irrational in treatment. Diphtheria and tetanus are as yet the only conspicuously antitoxic serums of practical value. Streptococcus, pneumococcus, cholera, typhoid, plague and recurrent fever serums are either bactericidal or bacteriologic and of greater value in immunization than treatment. There are many extracts of tubercle bacilli under the general name of tuberculin, which the author enumerated and described. No permanent immunity is produced by any of them, although the new tuberculins have some immunizing power in animals. The method is not applicable to man, nor safe, because likely to produce chronic poisoning, even in healthy subjects. Research at present aims to discover and utilize the mechanism of relative immunity produced by injections of bacillus substance. The nature of the tuberculin reaction is of importance. Of the various theories promulgated, that which assumes a ferment action, chiefly produced by secretions from leucocytes, is most in line with present knowledge. Many bacterial extracts, nucleins and digestive albumoses excite the same reaction as tuberculin produces. Tuberculin used therapeutically has only a limited application, and as it does not immunize for any length of time, it may not be better than other substances that can produce local hyperemia. The production of local hyperemia is rational in lupus, tuberculous peritonitis and, to a limited extent, in pulmonary tubercu-

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losis. Serums are not yet successful as to antitoxic properties. They may be bacteriologic or bactericidal. There is still hope for some efficient serum or extract of tissues, although possibly it may not be antitoxic.

Etiology of Malarial Fever.—Prof. William S. Thayer of Baltimore read this paper. He was of the opinion that the disease was acquired through the gastro-intestinal tract, especially by drinking water; through inhaled air; and by the bite of insects. The experiments of Celli, Marino, Zeri, Grassi and Filetti were strong evidence against the idea that the disease might be acquired through the gastro-intestinal tract; while a careful study of the literature as well set forth by Norton revealed the utter lack of evidence in support of such an idea. With regard to the theory that the disease was acquired by inhaled air, it could only be said that while such general facts spoke in its favor, no positive evidence in its support had ever been adduced. That the disease might be acquired through the bites of insects, especially of mosquitoes, had become an attractive hypothesis. It then may be considered as proven, that the malarial parasite possesses an extra-corporeal cycle, which is completed in the stomach wall of mosquitoes of the genus Anopheles, and that members of the genus Anopheles are capable of transmitting malarial from infected to non-infected individuals. The author then went over the bites of insects indigenous to certain localities in relation to the pathological effects, and especially referred to the class of mosquitoes which infect the suburbs of Baltimore.

Bacteriology of Dysentery.—This paper was read by Prof. Simon Flexner of Philadelphia. He said in part: There are few subjects in medicine that have attracted more attention than dysentery. Its history dates from the earliest written records and its ravages, unlike those of many of the pestilential diseases, have continued perfectly unabated to the present day. The most ancient writing upon medicine—the Papyrus Ebers—contains allusions to dysentery; the oldest Indian medical writers refer to it under the name atisar, while Herodotus speaks of its prevalence in Thessaly. Hippocrates, however, was the first to regard dysentery as an independent disease. I should hesitate to bring before this audience a subject so time-worn were it not for the fact that the nature and more especially the etiology of dysentery are among the problems which still await a satisfactory solution.

The imperfection of our knowledge of the nature of dysentery is not due to lack of opportunity for or of energy in its study. The literature contains some of the most distinguished names among clinicians and investigators, thanks to whose efforts its clinical history, its epidemiology and, to a less extent, its pathological anatomy have received partial elucidation. Nor has the disease in the past quarter of a century escaped the attention of the bacteriologists, although it must be confessed that the results of somewhat extensive studies along these lines have been far less conclusive than might have been predicted. Given a disease that is never entirely absent from temperate and tropical regions, that appears with epidemic severity, that permits of easy access to the *materies-morbi,* one would certainly have been tempted to predict that the success achieved in so many other and apparently no less difficult fields, would probably be repeated. That the attempt to establish a common etiological factor for all cases of dysentery has thus far failed, this audience need not be reminded. That this failure to emphasize the existence of several pathological states for which the term dysentery is employed merely as the collective designation need not be defended here. But that these conclusions regarding the disease may after all not be in keeping with the facts is at least open to suspicion. When we recall the protean nature of other infectious diseases, among the most common of which are tuberculosis and typhoid fever, there can be no *a priori* objection to the hypothesis that the causative agency of dysentery need not necessarily vary for each of the many types of the disease that have, from time to time, been distinguished. For the purpose of my inquiry I shall consider briefly the clinical and pathological types. That the lines of demarcation between the several clinical and pathological types should be inaccurate is not a matter of wonder. Both the beginning and the end of any given instance may vary very widely and the symptoms and lesions of cases arising sporadically in temperate climates may agree with those of dysentery occurring endemically in the tropics or epidemically in both localities. The terms "catarrhal," "tropical," "epidemic" and "diphtheritic" are far from signifying sharp-cut entities. The clinical manifestations and pathological lesions of the catarrhal variety occur in all kinds of dysentery and in all places where the disease prevails. Ever since the time of John Hunter there have been those who, upon pathological-anatomical grounds, have separated the endemic from the epidemic disease, and the line has been even more sharply drawn during the past decade, since the discovery of the ameba coli in its relations to tropical dysentery. But the distinction between tropical dysentery, which is characterized by ulceration and thickening of the intestines—especially the colon, the lesions beginning in the submucous coat of the gut—from the epidemic disease in which a false membrane exists, usually associated with ulceration without any primary involvement of the submucosa, is far from sharp and constant. In this country diphtheria has not been commonly observed in the ulcerative and amebic form of dysentery, while in Egypt, the two pathological conditions are not infrequently found together.

SECOND DAY—MAY 2D.

The first order of business was the voting on the resolution, which was unanimously carried, reading as follows: For the appointment of a

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committee of three, with full power to draw up and execute on behalf of the Congress of American Physicians and Surgeons, a memorial and petition to the Congress of the United States, asking that charitable, religious and educational institutions be relieved from such provisions of the War Revenue Act of 1898 as impose taxes on legacies left to such institutions, and to take such other action as may, in their discretion, seem desirable in securing such relief.

The following resolution by Dr. W. W. Keen, of Philadelphia, was unanimously carried:

Whereas, the medical profession employs various kinds of exact measuring apparatus, particularly clinical thermometers, ureometers, lactometers, and volumetric apparatus; and

Whereas, the physician should be able to obtain a written official guarantee of the accuracy of such apparatus; and

Whereas, no bureau has been established by our government for this purpose, necessitating the importation of such apparatus from countries possessing standardizing bureaus; therefore be it

Resolved, that the Congress of American Physicians and Surgeons heartily endorse the movement now on foot establishing such a standardizing bureau where such work and other equally important work may be undertaken.

Resolved, further, that a copy of these resolutions be forwarded to the Secretary of the Treasury, to the President of the Senate, to the Speaker of the House of Representatives, and to the Chairman of the House Committee on Coinage, Weights and Measures.

Sociological Status of the Physician.—Dr. Clarence J. Blake of Boston read this paper. The author said that the range of sociology, in its modern form, may be said to extend from investigation of the power value of psychic phenomena in the unit to consideration of physical economics in the mass. The original ideas of society as the product of extrinsic causes or of society as a force aggregation upon a materialistic basis, have gradually given place to a recognition of the continuity of the ethical idea in an aggregation of human units the majority of whom are relieved, in whole or in part, from the demands incident to a primitive struggle for existence. It is precisely at this point in the development of sociology that a member of the body politic, who has long existed and who has indeed for several centuries had a definite sociological status, becomes an increasingly coöperative factor.

The science of society which has come in the growth of its responsibility to the human mass to find the need of a more accurate study of the entity of the human unit turns to the doctor of medicine for advice and counsel. To the members of the medical profession, whose devotion primarily to the needs of the unit, leads them to concentrate their energies upon a succession of individuals and who consequently find themselves isolated more or less from the social community and placed apart as specialized workers, the newer and broader sociology brings not only the stimulus of association and sympathy but larger opportunities for the exercise of their usefulness. As a natural result of this approximation, appreciation grows, barriers of prejudice are broken down, the conventionalities of self in which pessimism is nourished disappear and men of different walks of life come to understand each other better, in the light of a common purpose to helpful ends. The sociological status of the physician, therefore, at the present time, may be said to be his standing in regard to an extensive movement in behalf of the study of human relationships with a view to a truer comprehension of their normal basis and to their betterment.

Before proceeding to a consideration of the effectiveness of the doctor of medicine as a part of the social organization exhibited through the medium of the institutions with which he is particularly related and of the other duties of which he is capable and which lie before him, it will be well to consider briefly the character of his professional training and its reactionary effect upon himself as a man and citizen. Of all special educations that of the science and practice of medicine, when it is of the best quality, is the most exacting and makes the largest demand upon the staying power of the student; it is longer in duration, more confining, but requires more intense application than the corresponding courses which lead to a degree either in law or divinity and affords a larger suggestive opportunity for collateral scientific reading. It implies in its beginning, the combating of natural repugnancies and, in its continuance, a ceaseless struggle against the mentally depressing influence of daily contact with disease and dissolution, it challenges lofty sentiments and lays bare the framework of cherished emotions; on the other hand, it demonstrates truth and gives the foundation for a faith which, although usually silent and often circumscribed, nourishes the optimism necessary to this vocation and helps the doctor to regard the affairs of life in the light of their importance, not to himself, but to the individual whom for the time being they most concern.

That the "outward profession of a faith" is not usual in the medical profession is not due to the lack of this quality, but rather to the reluctance to make public expression on the part of men whose life is, in its practical exhibition, largely confidential and who, moreover, have especial opportunity to give utterance to the spirit within them in human contract work. To the claim that medical education furnishes the material for a deep and lasting faith in a creating and sustaining power may be added the claim that it tends to beget that sense of reverence of which Benjamin Kidd says, "It is a preponderating element in the type of character which the evolutionary forces at work in human society are slowly developing and with which are tending to be closely allied the qualities of great mental energy, revolutionary enterprise, powers of prolonged and concentrated application and a sense of single-minded devotion to conceptions of duty."

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In the very beginning of his studies the medical student is brought into investigatory relationship with that which he has heretofore thought of as an entity, a being, a mystery, and which, now put into his hands for demolition, he finds to be a most wonderful and delicately constructed machine, in the study of which he may be said to pass through much the same process of mental evolution as that attributed by Professor Giddings to primitive man. He is lost in marvel at the compact arrangement of muscular tissues; regards, as might the explorer of a buried city, the system of canals which carry quickening fluid to the outermost circumvallation and of drains into which are cast waste matters to be discharged without the walls; while the glistening white lines of nerves, sending their branches in a network between muscles and under and over canals and drains, reveal to him the suggestion of a system for the communication of intelligence and the issuance of governing mandates to which the combined telegraphic and telephonic services of the greatest city built by human hands have no comparison in relative extent or perfection. There is probably no point in his career of so much initial portent as that in which the student, in the dissecting-room, for the first time lifts the wet sheet from a face that he has never known, but behind which there dwelt and through which there have been expressed all that emotion and desire can crowd into the compass of a human life; it is a period in which he either consecrates himself or turns back; if he be honest he does one or the other, if he be a pretender he may, it is true, continue and complete his medical school course and go out into the broader school of work, but without the consecration he will inevitably fail of his highest possibilities as a physician.

The impress which is made by the study of anatomy upon the truly thoughtful man cannot but be emphasized in the physiological laboratory where the student learns the values and uses of the different parts of the human machine and finds the answers to the questions which the previous study of the structure of the silent body has evoked. Here and in the associated laboratories, he learns the chemical processes of the body in health and disease, the supplementary relationship of the different organs, the provision for their maintenance and repair and comes to recognize and to know the functions of the microscopic organisms with which the body teems. Carrying with him the lessons born of research, he next passes into the wider school of clinical teaching and learns at the bedside that he has to study something more than the disease, and that to render the fullest meed of service as a physician he must come to know, patiently, tenderly and, in the broadest sense, sympathetically, his brother man.

From an economic standpoint the hospital may be defined as an institution in which capital and skilled labor combine to provide such members of the community as are temporarily disabled and without means of support, with the maintenance and care which shall fit them to become again self-supporting and active community factors. The hospital of to-day is something very much more than a mere repair shop, it is a school full of object lessons in the application of those qualities which are the uprights, the girders, and the binding rods of the modern social structure; in the first place, it is the most absolutely clean of all human habitations, and the present splendid successes of surgery in the amelioration of suffering and the preservation of life are due not only to the application of trained skill and intelligence, but to its operations under conditions of absolute sterilization which are microscopic in their minutiæ.

At the conclusion of Dr. Blake's paper, President Bowditch came forward and said:

"Now, gentlemen, it is my pleasant duty to ask your attention to our honored ex-President who has cultivated the fields of medicine and literature with equal success, and who has kindly consented to express himself in his own charming verse on the "Evolution of the Physician."

In part, Dr. S. Weir Mitchell spoke as follows:

"Mr. President and Fellow Members of the Congress: I will say a word in explanation of the unusual fact of my appearance here. It is perfectly well-known, I venture, that never before in the history of medicine has a Congress been addressed in verse. For this novelty, you may thank the committee of the Congress, and my friend, its President."

At the conclusion of the reading of the poem, Dr. Mitchell was greeted with prolonged applause and was enthusiastically congratulated. The poem was a fine contribution to literature and was delivered with freedom and appropriate gesture. The doctor's honorable, dignified and humanitarian station in life was described in glowing language. The priests disagree, but doctors extend the universal hand of fellowship and goodwill. One gem of the poem is as follows:

What sense of pleasure won that helping hand,
You best can tell, you best can understand;
Who looking back across your busy years,
Know what your hands have spared of pang and tears.

There was prolonged applause when the lines rang out,

One bugle-note or one battle-call,
One watchword—DUTY—that is all.

Congress adjourned until evening when an address was delivered by the President on "The Medical School of the Future," which appears in full in this issue of the MEDICAL NEWS.

Hospital Bequest.—The Germantown (Pa.) Hospital and Dispensary is to receive $58,000 to be known, from the name of the donor, as the Lambert Lare Endowment Fund.

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AMERICAN SURGICAL ASSOCATION.

Twenty-first Annual Meeting Held at Washington, D. C., May 1, 2, and 3, 1900.

FIRST DAY—MAY 1.

Perforating Ulcer of the Duodenum.—The scientic business of the American Surgical Association was introduced by the President, Dr. Robert F. Weir, of New York, who read a paper upon the above mentioned subject, which is published in this issue. (See page 690.)

Non-Perforating Gastric Ulcer.—Upon this theme Dr. Wm. L. Rodman, of Philadelphia, read the first paper in a series upon surgery of the stomach. In the treatment of no other disease is there greater need for a perfect understanding between physician and surgeon. Since the worst complications may develop unexpectedly, there is but one safe rule to follow, and that is for the physician to treat all patients having gastric ulcer, either in a hospital or at their homes, in conjunction with a surgeon. Three-fourths of all cases of non-perforating gastric ulcer can be cured by medical means; but if success does not follow medical measures in four or five weeks, surgical relief should be sought. Excision of the ulcer is the ideal treatment in the face of uncontrollable vomiting, suspected malignant degeneration, etc., but gastro-enterostomy gives almost as good results, and is to be preferred in all cases in which severe hemorrhage follows from a posterior situation of the ulcer. The presence of firm adhesions or of a multiplicity of cancers makes partial gastrectomy particularly dangerous. At its best, excision has a mortality of 15 per cent.

Dr. Rodman does not advise operation for hemorrhage either during the first attack or during recovery from it. Only 8 per cent. of patients who bleed from the stomach die. Even in a second hemorrhage it may be advisable to wait. But the published records of cases show that delay after a second severe hemorrhage has more than once cost the life of the patient. The results of operation in acute hemorrhage are encouraging and are growing better each year. Robson's tables, with a smaller number of cases, show a mortality of 64 per cent. after operations for acute hemorrhage; but some cases are incorrectly quoted by him. Dr. Rodman made a more exhaustive search and found 31 such operations with only 11 fatalities—a mortality of 35 per cent. Surely not a prohibitive mortality since most of the patients operated on were in desperate condition. Far better results have followed operations upon patients suffering from constantly recurring small hemorrhages; the mortality being only 16 per cent. Various operations have been performed, but gastro-enterostomy has been and is likely to remain the operation of choice, because one can never be sure of finding the bleeding point, even when the stomach is opened and examined in a good light; and one can never be sure that there are not multiple ulcers. Such measures as ligation of the mucous membrane *en masse*, cauterization of the ulcer, ligation of the bleeding vessel and ligation of the main artery are too difficult or uncertain for general adoption. Pyloroplasty, once in favor, is steadily losing ground before gastro-enterostomy, which has been performed for chronic small hemorrhages 12 times without a single death.

Perforating Ulcer of the Stomach.—The second paper in the series upon surgery of the stomach was read by Dr. J. M. T. Finney, of Baltimore. Success in operation depends on early diagnosis. There are no distinctive symptoms of impending perforation, but the perforation itself is attended as a rule by well-marked phenomena. Sudden sharp pain in the upper part of the abdomen, often accompanied by vomiting and symptoms of shock, localized tenderness and marked rigidity of the abdominal muscles with retraction have been generally noted. Later, there is gradually increasing distention, possibly with free fluid in the peritoneal cavity. Another important symptom, to which thus far no attention has been paid, is the development of marked leucocytosis. This condition of the blood is never seen in connection with gastric ulcer except after perforation, or a severe hemorrhage, or a sudden change from absolute rectal feeding to feeding by the stomach. This development of leucocytosis is an important symptom, and should always be looked for, but too much reliance must not be placed upon it as at times it has been found wanting. The reader warned against the use of opium before operation, because it may cloud the diagnosis and also prejudice the chances of recovery. The operator should not delay operation on account of shock, for the operation is calculated to relieve the cause of shock, and the anesthetic itself has a beneficial stimulating effect. In doubtful cases one should open the abdomen to establish the diagnosis, using for the purpose cocaine anesthesia, which may be supplemented, if the patient complains, by a few whiffs of ether or chloroform. The surgeon should systematically explore the stomach, passing from the cardiac end over the anterior wall to the pylorus, and then along the lesser curvature; and then, lifting the stomach, he should examine the posterior wall. Dr. Finney insisted upon the necessity of thorough cleansing of the intestines, coil by coil, and of the whole peritoneal cavity by irrigation and wiping with gauze pledgets. Adhesions should be respected. If the operation is performed early and the peritoneum is thoroughly cleansed, the abdomen may be closed. In doubtful cases it is better to drain. Post-operative distention, most marked when opium has been freely given before operation, should be treated by calomel in broken doses followed by salts, high enemata of glycerine and water or glycerine and oil. Washing out the stomach and the application of the Paquelin cautery to the abdomen are, also, useful measures.

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Prognosis depends upon several factors: The condition of the stomach, empty or full when perforation has taken place; the interval between the last meal and the perforation; the time elapsing between the perforation and the operation; the number and size of perforations; the position of the patient at the time of perforation; the perfection of the operative technic, and, finally, on the nature of the infectious agent, whether streptococcus pyogenes or not.

Malignant Diseases of the Stomach and Pylorus.—Dr. W. J. Mayo of Rochester, Minn., urged the necessity for an exploratory incision in every instance in which cancer of the stomach is suspected. If the surgeon waits for a certain diagnosis he will be too late. It has been suggested that the same principles of thorough extirpation which are giving such good results when applied to cancer of the breast, should be applied to gastric cancer; but it is well to remember that glands may be enlarged from septic causes. In more than half of the 28 patients upon whom Mayo has operated for non-malignant gastric dilatation, enlarged glands were palpable, due to accompanying gastritis. Many patients die of cancer of the stomach without glandular involvement, and even if the glands do become involved their situation is such that their removal is practically impossible. Malignant disease of the stomach has a peculiar depressing effect on the patient. The nutrition is bad, and the healing power is greatly reduced. Ascites even in a limited degree is a contraindication to operation. The diagnosis even after the abdomen has been opened is not always clear. There are no definite universal signs upon which to base a diagnosis. Four of Czerny's patients upon whom gastro-enterostomy was performed, lived so long as to make it pretty certain that the diagnosis of cancer was an error. If the disease is cancer, too extensive for extirpation, yet not requiring a palliative operation, the abdomen should be closed by the Halsted method, which will allow the patient to get about in a few days and to leave the hospital in a week. Complete gastrectomy is probably destined to become a most valuable operation, but this the future must finally determine. Operations confined to the pyloric end of the stomach have been largely practiced, and are on the whole unsatisfactory. The late diagnosis has been in part responsible. Surgeons in view of the absolutely unfavorable prognosis have sometimes performed operations too serious for the strength of their patients. Kocher's operation, closing the wound in the stomach and forming an independent anastomosis between the duodenum and stomach, has been generally adopted as the safest pylorectomy. Gastro-enterostomy is the most generally useful palliative operation in conditions of pyloric stenosis beyond radical treatment. Two methods of gastro-enterostomy have stood the test of time, simple suture, and the Murphy button. The results published by the advocates of the two methods are about the same, and depend apparently more on the operator's skill than on the method. Surgeons are also divided as to the relative merits of an anterior posterior-enterostomy (Wolfler's method), or posterior gastro-enterostomy (von Hacker's method). By the latter procedure the posterior wall of the stomach is reached by traversing the cavity of the lesser peritoneum. It is claimed for this method that the food passes more readily downward, that a button if one is used is less likely to drop into the stomach, and that regurgitant vomiting of bile and pancreatic juice is less frequent. These are all good claims if true, but a study of the published cases of both methods shows little difference in the after effects, and since the anterior method is simpler Dr. Mayo prefers it. The point chosen for the anastomosis should be about an inch above the lower margin of the stomach, and as near the pylorus as possible, yet it must not be near enough to be encroached upon by the disease. When anastomosis is complete, the weight of the loop draws the stomach over until the point of attachment is the bottom of a funnel. Dr. Mayo has performed this operation thirty-one times, and has seen regurgitant vomiting in only two instances, both of the patients in question being sufferers from malignant disease. In all of these patients the Murphy button was used without supplementary suture. There were three deaths after eleven operations for cancer, and one death after twenty operations for benign trouble.

SECOND DAY—MAY 2D.

Benign Obstruction of the Pylorus.—Dr. F. Kammerer of New York divides cases of benign obstruction into those which are congenital and those which are acquired. The latter demand the aid of the surgeon. The pyloric stenosis may be due to ulcer, benign tumors, syphilis, gall stones (by secondary inflammation). Stenosis may also be due to hyperchlorhydria. This last affection is considered by some to be a functional neurosis. The result of spasm is stasis and decomposition of food. Hypersecretion is the natural result, which in turn causes firmer contraction of the pylorus. When the abdomen is opened and the stomach is relaxed, no evidence of spasm of the pylorus may be visible. However, spasm has also been observed during operation. Various attempts have been made by means of ingested gutta percha balls and elastic sounds passed by the mouth to dilate the contracted pylorus. Ulcer is a contraindication for such treatment, which, moreover, in no case seems to have had any permanent good effect. Excision of the pylorus for ulcer or benign stenosis is an operation with a mortality variously estimated at from 18 to 34 per cent. Resection when no ulcer is present seems somewhat less dangerous than in the presence of an ulcer, but it is an operation which is being rapidly abandoned. Divulsion carried out either through an incision into the stomach or by invagination is another operation which has no future, for the reason that pyloroplasty and gastro-enterostomy have many ad-

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vantages not possessed by the older operations. According to published reports of cases the mortality of both pyloroplasty and gastro-enterostomy when performed for benign stenosis is about 15 per cent.; but writers sometimes do not include those fatal cases in which pyloroplasty is attempted and on account of adhesions has to be abandoned for a resection of the pylorus; and, moreover, the newest reports of gastro-enterostomy give a far lower death-rate to this operation than earlier statistics. The presence of extensive adhesions must be considered a contraindication to pyloroplasty, for, although division of adhesions alone has sometimes cured a patient, broad adhesions usually reform, and an inflamed gastric wall is not suited to suture. No such complications ever prevent the surgeon from the proper carrying out of gastro-enterostomy. The immediate results of pyloroplasty are usually good. There is a restitution to normal of the affected parts. Gastro-enterostomy produces an abnormal condition and may be followed by fatal regurgitation. This is more common in carcinomatous than in benign cases and seems to occur more frequently after anterior than posterior gastro-enterostomy. The enforced recumbent position of the patient adds to the difficulty of the stomach in emptying itself, and a broad line of suture seems to flatten the intestine against the stomach and tend to obliterate its lumen. If a posterior gastro-enterostomy is performed and Murphy's button is employed the evils of regurgitant vomiting may be avoided. Kammerer has performed such an operation eleven times in the past two years (nine of the patients having cancer) and in no instance has there been any evidence of regurgitation. Some Continental operators of large experience, such as Carle and Czerny, are quite of the same mind. Doyen performs a posterior operation suturing without a button; but Mikulicz, who formerly advised a posterior operation with the button, has returned to the anterior operation with suture alone. In the use of the button, one or two simple sutures to fix each half in its appropriate viscus are better than purse-string sutures, which cause a puckering of the coats and so make an even pressure and necrosis uncertain. The button may drop into the afferent limb of the jejunum or into the stomach, but trouble from this cause has rarely been mentioned. Constriction of the colon by the anastomosed intestinal loop, or the reverse, is a complication which can hardly occur with posterior gastro-enterostomy as the normal relations of these organs are scarcely altered. In comparing the remote results of pyloroplasty and gastro-enterostomy, the frequency of relapse must be first considered. After the former operation relapse may be due to a further formation of pyloric cicatricial tissue, or to the fixation of the pylorus in an unfavorable situation by adhesions, or to progressive gastric atony, while relapse after gastro-enterostomy may result from contraction of the orifice, which is rare and has been attributed to inaccurate suture of the mucous membrane. In conclusion, it may be said that in well-selected cases the results of pyloroplasty, both immediate and remote, are as good as those of gastro-enterostomy. In cases in which there is no fixation of the pylorus, and not much inflammatory thickening, nor too much dilatation of the stomach nor weakening of its walls, pyloroplasty is as safe as posterior gastro-enterostomy with the button; safer perhaps than the same operation by suture. It is free from the intestinal complications of the latter, to which allusion has been made above. But it has one regrettable feature—an uncertainty of result, and, when the dangers of two operations are about equal and one of them offers greater assurance of success in every case, the latter should always be the operation of choice.

Gastric Dilatation; Gastroptosis.—Dr. B. F. Curtis of New York said that the surgeon need not concern himself with fine distinctions as to the exact outlines of the normal stomach. It is at least certain that in normal individuals the pylorus is so sheltered as to be nearly out of reach of the palpating fingers, while the lesser curvature is quite so. When these parts can be felt therefore, a condition of gastroptosis exists.

Gastrectasia is an enlargement of the stomach combined with motor insufficiency, that is to say, a relative insufficiency, a disproportion between the muscular power and the resistance to be overcome. All obstructions at the pylorus are not followed by gastrectasia, because in many cases the muscular hypertrophy is sufficient to overcome the pyloric resistance and empty the stomach.

Atonic dilatation is often associated with gastroptosis. The weight of an enlarged stomach may stretch its attachments and cause its descent, and, on the other hand, gastroptosis may obstruct the escape of food and cause an obstructive dilatation. In the majority of cases gastrectasia and gastroptosis coexist because they have a common origin affecting the general nutrition of the body, and in which there is often a strong nervous element.

The symptoms of atonic gastrectasia are a feeling of fulness and weight after eating, without pain. The appetite is often maintained and there is great thirst for water which is not absorbed by the stomach and its passage to the intestine is delayed. Other symptoms are headache, dyspnea, dizziness, constipation (occasionally diarrhea), marked emaciation, a very slow pulse, and scanty urine. There may be eructations of gas, with or without vomiting. Inspection, palpation and percussion will show an enlarged stomach. The stomach-tube will show a retention of food for a much longer than normal period, and motor insufficiency can also be demonstrated by testing the urine after ingestion of salol. The size of the stomach should be proved by inflating it with air or by the bicarbonate of soda method.

The prognosis of extreme atonic gastric dilatation is not favorable, but the changes take place

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more slowly than in obstructive dilatation. Medical rather than surgical treatment is usually indicated; but the latter should be resorted to when the former fails to keep the patient from continuous loss of weight and strength. Either gastroplication or gastro-enterostomy may be performed.

Gastroplication is an infolding of the walls of the stomach. It is contraindicated if pyloric obstruction exists, and is unnecessary if such an operation as pyloroplasty is done at the same time. It has, therefore, a limited field, and less than thirty cases have been reported. In many instances the subsequent condition of the patients so operated upon was not given, while in some instances the operation was ill advised. It may be safely inferred, however, that the operation has only a small mortality, and that in suitable cases it produces good results. Several methods of folding in the stomach have been suggested, Weir's plan being perhaps the best. He makes several longitudinal folds, stitching each separately. The rival operation is gastro-enterostomy with a mortality somewhat higher (10 per cent. in non-malignant cases), but which has the distinct advantage of relieving the patient, even although pyloric obstruction is present; while a gastroplication can hardly be expected to give relief, if pyloric obstruction coexists.

Gastroptosis is a sinking of the lower portion of the stomach, as shown by a change in the position of the lesser curvature. Meinert claims that gastroptosis is present in more than 80 per cent. of women. To a considerable degree it may exist without symptoms. These develop in proportion to the amount of pyloric obstruction present. Palpation and inspection of the abdomen may give a suspicion of gastroptosis, but for an accurate diagnosis it is necessary to dilate the stomach with gas or air. Then the lesser curvature and the pyloric portion come out clearly. It is only recently that this condition has been met by surgical measures. The indication is clearly to support the stomach from above, and Duret and, after him, Rovsing have sutured the anterior wall of the stomach to the parietal peritoneum close up to the diaphragm, and have succeeded in relieving their patients. This operation is called gastropexy or gastrorrhaphy. Various stitching procedures have been successfully carried out by Treves, Byea and others, in order to shorten the supports of the stomach, or to attach it to parietal peritoneum as high up as possible.

In conclusion the speaker said that improvement is not difficult to bring about whether one secures the liver only, sutures the stomach itself, or the mesocolon to the abdominal wall, or shortens the gastrohepatic omentum, or finally, removes a segment of the abdominal wall. The condition is usually a complex one, and probably a simple gastrorrhaphy will not be sufficient, but should be assisted by right nephrorrhaphy, hepatorrhaphy, and in some cases by the Depage-Hannecort operation. In women similar supporting operations on the genital organs will also be necessary to assure a good result.

Hour-Glass Contraction of the Stomach.—Dr. F. S. Watson of Boston said that this lesion has a surgical history of only ten years—and the principle of anastomosing the two portions of the stomach was first carried out by Wölfler in 1894. Since then anastomosis has been carried out in one form or another many times. Altogether thirty-five operations upon an hour-glass stomach have been published. The speaker described a case on which he had successfully operated. His plan was to suture together the parts to be anastomosed, before the stomach was opened. Communicating incisions were then made, which of necessity exactly coincided, and were sutured internally. The extra incision in the stomach was then closed. The choice of method must depend on the conditions found. In some instances gastro-anastomosis is not practicable because it would bring too great a tension on the parts. Gastro-enterostomy fails to utilize the digestive capabilities of the pyloric half of the stomach, and if the cardiac portion of the stomach is atrophied, this loss of the pyloric portion will be serious—a plastic operation is in many cases technically inadvisable while a resection of the constricted portion is too dangerous for practical use. Whatever operation is chosen, the surgeon should not forget the advantage of freeing adhesions—as this of itself has been known to cure many annoying symptoms.

Diagnosis of Cancer of Stomach.—Dr. J. C. Hemmeter of Baltimore said that the only diagnosis of cancer of the stomach which is of interest to the surgeon, is an early diagnosis; that is a diagnosis before the symptoms of cancer have appeared. Such surgeons as Czerny, Rindfleisch and Kraske oppose operation on gastric cancer after a tumor can be made out. Against an early diagnosis are first the indifference of the patient and unfortunately many times of the physician, before well marked symptoms arise; and second the fact that chemical and microscopical tests of the gastric contents themselves take so much time. The absence of hydrochloric acid is not a reliable sign, for patients may die of cancer with hydrochloric acid in their gastric contents. The presence of lactic acid is merely due to stagnation and while a valuable sign it occurs too late to be of service in making an early diagnosis. The same is true of the Oppler-Boas bacillus. The pylorus is so situated that a tumor of it may grow to a considerable size and still be not palpable. Electro-diaphany and the X-rays are valueless for early diagnosis. Gastroscopic examination is dangerous. Curetting the surface of the stomach is a newer method of diagnosis, which yields sure evidence if a typical bit of tissue can be secured; but cancer of the stomach must already have progressed to a certain degree before a bit of tissue can be obtained with a weighted stomach tube, which is the harshest instrument which Hemmeter considers safe to use. This means of diag-

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nosis is still undeveloped, and as yet the early diagnosis of carcinoma of the stomach can only be made with certainty in a few cases. Although surgical treatment of cancer of the stomach is at present the best treatment we know of, it seems certain that it will some day give way to a form of treatment, to be discovered by the Pasteurs, or Klebs, or Kochs of the future who shall show us a method of treatment which shall cause the cancer to melt away as the antitoxin treatment causes the diphtheritic membrane in a child's throat to disappear.

Gastric Functions before and after Gastro-Enterostomy.—Dr. Charles S. Fischer of New York presented the results determined by him by following up for some years four cases in which gastro-enterostomy was performed for non-malignant conditions. The speaker said that only by observations extending over periods of months and years before and after operation can definite conclusions as to the changes brought about by the operation be made. The two functions of the stomach which are especially concerned are its secretion of hydrochloric acid and its motility.

In one case in which gastro-enterostomy was performed for hyperacidity, pyloric obstruction and dilatation, the immediate results were excellent. The hyperacidity, however, progressively increased, and two years after operation it was greater than ever. The motor conditions of the stomach were much improved, and the stomach was found empty upon lavage within the necessary time limit. A second case was similar up to the time of operation. This patient also was much improved by the operation, but fourteen months later it was found that the change in hyperacidity did not keep pace with his general improvement. In this case slight atony existed fourteen months after operation, which could be traced to improper hygienic surroundings. In the third case the hyperacidity was purely functional. The pyloric stenosis and slight dilatation were secondary. After operation examinations showed that hyperacidity sometimes came on as a result of mental excitement, and sometimes was absent. The fourth case was followed for four years prior to operation, during which time simple gastric dilatation, as a result of atony, developed. At first there was nervous dyspepsia with varying acidity and a tendency to gastroptosis. A year later the condition had changed to subacidity and atony began to show itself. From that time there was progressive weakness and dilatation of the walls of the stomach and relaxation of the abdominal walls, and the right kidney became movable. The patient's general health was much improved by the operation, but one year later the gastric dilatation still existed and the subacidity had progressed to a fair state of achylia. The motor functions appeared normal. These cases represent three distinct types of benign chronic gastric trouble: Primary pyloric obstruction with secondary hyperacidity and dilatation (cases I and II); primary functional hyperacidity, with secondary pyloric spasm and dilatation (case III); and primary neurotic atony, with secondary subacidity and dilatation (case IV). The consideration of these results, and especially of the results in the third and fourth cases, is of the greatest value to the physician, for there are cases in which operation is one of expediency and not of necessity. In case III, after operation, there was a general improvement in the health of the patient and a considerable gain in weight, and no dyspeptic symptoms. Yet in one year the changes in the mucous membrane progressed as far as to give a condition of achylia, which cannot possibly be explained on the basis of continued imitation due to food stasis, for the stomach emptied itself properly. The conclusion is obvious that hypertrophic or atrophic changes of long duration may be progressive after operation. In those cases in which enlargement and impaired muscular activity are relative and due to obstruction, gastro-enterostomy, by removing the obstruction, gives the stomach an opportunity to return to its normal condition. Gastro-enterostomy has a beneficial effect on the action of the intestines. In the first three cases the constipation was due to the pain caused by the pyloric spasm—a reflex constipation. It was entirely relieved by operation. In case IV the constipation was atonic, alternating with fermentative diarrhea. In this case, after operation, the stools became normal and regular, as a result of improved nutrition.

Adhesions of the Stomach.—Dr. A. T. Cabot of Boston said that adhesions are chiefly of significance when situated about the pylorus. Sometimes the digestive disturbances are spread out over the whole life of the patient, but usually they come on in distinct attacks like attacks of gall-stone colic. Vomiting is prominent, and is probably merely a result of the pain. The latter may be spasmodic or lancinating. The pain may extend around the body as a girdle. Sometimes the digestion in the interval between the attacks of pain is good, sometimes poor. The severity of pain is usually the cause for operation.

Stricture of the Esophagus Following Gastrostomy.—Dr. F. S. Dennis of New York presented a patient who suffered from a stricture of the esophagus following typhoid fever. The patient was reduced almost to the point of starvation when a gastrostomy was performed. Since then he has gained flesh and is now in practically perfect health.

(To be Continued.)

ASSOCIATION OF AMERICAN PHYSICIANS.

Fifteenth Annual Meeting, Held at Washington, D. C., May 1, 2 and 3, 1900.

FIRST DAY—MAY 1ST.

Truth in Medicine.—The president's address upon this subject was delivered by Dr. E. G. Janeway of New York (see page 690).

A resolution was carried asking that Congress remit the present war-tax on legacies to charitable, religious and educational institutions. It was pointed out that if Johns Hopkins had died during the past year, the University founded by him would have lost more than $1,000,000 in tax to the Government.

A resolution was passed to provide for the drawing up of a resolution to oppose the Senate bill introduced by Senator Gallinger which would limit animal experimentation in the District of Columbia, Surgeon-General Sternberg moved the appointment of a committee to carry on the opposition more effectively. This was adopted.

A paper on endocarditis in relation to other diseases to have been read by Dr. William Osler of Johns Hopkins, Baltimore, to whom the subject was referred for special treatment with the idea of evoking discussion, but Dr. Osler was unavoidably absent.

Diabetes with Low Specific Gravity.—Dr. James B. Herrick, of Chicago, read an account of some cases of diabetes with very low specific gravity despite the presence of sugar in the urine. Usually there is a ratio between the amount of sugar in the urine, the quantity of urine passed and its specific gravity, so that the severity of the mellituria may be estimated from the other factors, but this is not an invariable rule. Eichhorst has had a case of glycosuria with urinary specific gravity of 1008. Naunyn has seen cases with specific gravities from 1010 to 1015. As low as 1003 has been reported. These low specific gravities occur not only in the polyuria immediately preceding or following an acute exacerbation of the diabetes, but also at the height of the glycosuria. Various reasons are given. Low specific gravity occurs in weak patients, especially if they are taking large quantities of water. In one of Dr. Herrick's cases the patient was taking large daily amounts of a mineral water supposed to be curative for diabetes. His urinary specific gravity never reached 1020. In a case of obese diabetes in Dr. Herrick's practice the specific gravity was but 1004. To be sure there was no error, it was tested by several urinometers. The patient had been drinking beer excessively just before passing 24 ounces of urine and to this was due the low specific gravity. Cases of diabetes complicated by interstitial nephritis are especially apt to have low specific gravity of their urine. It is not enough then to look for sugar in the urine only when the specific gravity is above 1020. If interstitial nephritis is suspected or the patient is weak or takes liquids very plentifully, the urine should be carefully tested for sugar no matter how low the specific gravity.

Urinary Casts and Diabetic Coma.—Dr. Herrick has had three cases of diabetic coma recently, in all of which the development of coma was immediately preceded or accompanied by the presence of an abundance of granular casts in the urine. When the urine was allowed to stand for three hours about one-sixth of its volume was a gray or yellowish sediment almost entirely composed of these casts. Their number bears no relation to the amount of albumin present. They have been found 24 hours before an attack of coma. Their presence has been noted in the urine passed after exercise when three hours before they were not present and a little later symptoms of threatened coma supervened. In one case Dr. Herrick found them in the urine of a patient in whom diabetes had not been suspected, but who died 24 hours after the urinary examinations with typical diabetic coma. Naunyn does not think these casts pathognomonic of diabetic coma, but they may prove a valuable preliminary diagnostic sign. The kidneys seem to be overwhelmed by the toxins present in the circulation and the overtaxed epithelial elements give way with the production of these casts.

Uric Acid in Epilepsy.—Dr. James J. Putnam of Boston, in connection with Dr. F. Pfaff, has been repeating some observations made concerning the relations of uric acid to epilepsy. It was reported by Krainsky that before a seizure the amount of uric acid excreted was distinctly lessened, while afterwards it was increased. Drs. Putnam and Pfaff have failed to confirm this. The elimination of uric acid bears no relation to epileptic seizures. The uric acid doctrine dies hard, and its worshippers cling to it most faithfully. In Dr. Putnam's opinion, it is probable that too much weight has been thrown in recent years on the rôle of toxemias in the production of symptoms of disease.

Ascending Paralysis.—Dr. Charles G. Stockton of Buffalo reported a fatal case of this disease in a domestic servant of twenty-seven years. For some months before the development of severe symptoms there were noticed inexplicable nervous symptoms; pain, restlessness, sleeplessness, loss of weight (20 pounds), and weakness. Some improvement in the general symptoms and in weight occurred uring a month in the country. Later paresthesia developed, then anesthesia of the buttocks, followed by involuntary stools. The legs grew weak and at first painful, then senseless. Later the body and arms shared in the paralytic condition until finally the head alone had feeling and movement. The temperature had been regularly taken for months before, and was not abnormal. For several days before death it was 102° F. or above. An autopsy could not be obtained, but it was supposed to be a case of acute ascending myelitis. For some weeks before the end the urine was of a claret color. Chemical analysis showed the coloring matter present to be hemato-porphyrin. Some trional was administered several weeks before death, but not enough to cause the appearance of hemato-porphyrin in the urine. Hemato-porphyrinuria has been reported in certain cases of post-diphtheritic palsy, and it is a question whether this symptom should not be looked for in other forms of acute paralyses.

Trional and Hemato-porphyrinuria.—Dr. Putnam of Boston said in the discussion that re-

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cently he had a case very similar to that reported by Dr. Stockton. The same train of clinical nervous symptoms, beginning with impairment of sensation and culminating in total loss of motion was noted. The diagnosis lay between acute ascending paralysis, Landry's disease, and multiple neuritis. The same claret-colored urine noticed by Dr. Stockton was observed, and the color was found to be due to hemato-porphyrin in the urine. Some trional had been taken by this patient also. Though none of the drug was prescribed for two weeks before the fatal termination yet the hematoporphyrinuria continued. A most careful post-mortem was made by Dr. Councilman, who reported the cord and brain to be absolutely unaffected, but a series of neuritic changes existed in many parts of the body.

Dr. Janeway said that he had under his care for the last year and a half a woman in whom a multiple neuritis of the most pronounced type developed. The greatest care had been taken to exclude all other forms of toxic neuritis, especially as regards alcohol and lead. The only conclusion possible, under the conditions, seemed to be that the active toxic agent in the affection was trional, which the woman had been taking for some time, in 20 to 25-grain doses for the relief of sleeplessness. The neuritis was of the severest type and the symptoms did not remit for months. It is only now, at the end of over a year, that her condition can be said to be notably improved.

Infant Immunity to Contagion.—Dr. A. C. Abbott of Philadelphia said it has long been said that very young children were but little liable to contagious disease, although exact statistics in support of the statement were not often quoted. From 23 to 32 per cent. of all children die under one year of age. Although many less die during other years, very much fewer die from contagious diseases during this first year. Of the infants who die from contagious diseases during the first year over 80 per cent. die during the last six months, and only 3 per cent. during the first three months. Now it is during the first three months that the infant mortality is highest from other causes. Some explanation is needed for this very striking immunity. Baumgarten has suggested that it is due to the fact that infantile tissues possess a resistive power for bacteria. This is, however, merely theory with nothing to substantiate it. It has also been suggested that children are more cared for at this earliest period. As a matter of fact, however, we know that the children of the poor are miserably neglected while young. Mothers, without any idea of sanitary precautions, nurse them and then confide them to the care of the little ones of the family for hours. The best explanation seems to be one derived from some recent observations of Ehrlich. He found that immunized animals did not confer immunity by direct heredity upon their offspring, but that as long as the young animals suckled they were protected from the disease to which their mother was immune by an immunizing principle, which is contained in the milk. These protective properties of the milk were amply demonstrated. Among human beings most women have had the ordinary contagious diseases and have acquired a lasting immunity. It is probable, then, that their milk contains an immunizing principle which protects the child from contagious diseases so long as it nurses.

In the discussion Dr. Trudeau said that Baumgarten's theory of the resistance of young tissues to bacteria certainly did not extend to animals. Young guinea-pigs can be infected very readily with any germ-disease.

Dr. George Shattuck of Boston said that diphtheria conferred no immunity, or at most a very temporary one, yet young children were also immune to this according to the statistics given. They were certainly not protected by any immunizing principle in the milk in the case of diphtheria, so that it seems to be evident that other factors besides protective milk play a rôle in making contagious diseases so very rare in the very young.

Recurrent Vomiting in Children.—Dr. J. P. Griffith of Philadelphia said that he has recently observed four patients with obstinate vomiting as their principal symptom, which seem to deserve special treatment. In severe cases the vomiting is so persistent and the constipation so obstinate that intestinal obstruction may be suspected. Death seemed imminent in two of his patients. Chloral and bromides were vomited. In one case the child lay helpless on its side for hours, with dark material, and sometimes blood, flowing from the mouth. It no longer had the strength to vomit. The child seemed too weak for morphine, but finally this was given hypodermically, and relief followed. In two other cases, however, morphine did not seem to give relief. In one case chronic appendicitis was suspected and an operation was performed. No other attack of vomiting occurred for eight months, and then a fatal attack developed. In none of the cases were there any kidney symptoms until the terminal stages, when albumin and casts were present in the urine, and in one case edema was noted. Leyden reported a series of cases of intermittent vomiting in adults, which came on without known cause. The attacks resembled the gastric crises of locomotor ataxia. Some neurologists claim that Leyden's cases were true gastric crises of latent tabes and one patient actually developed tabes later. In children, however, such attacks have been reported rarely. In Griffith's cases digestive disturbances and prodromes were absent. The attacks occurred at irregular intervals, from three weeks to sixteen months apart, and lasted from two to eight days. While death seemed inevitable, recovery occurred in two cases, and when the patients began to mend convalescence was rapid.

The attacks of intermittent vomiting seemed to be due to a neurosis on a toxic basis, emesis being the result of the effort by the gastric mucous membrane to eliminate the toxic material.

Character of Vomit.—Dr. Stockton said that a

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word should be added about the character of the material vomited. Examination shows that it is practically pure gastric juice according to all the chemical tests. There is an excess of hydrochloric acid, and as soon as that disappears convalescence begins. A certain periodicity of the disease may be noted even in children. Dr. Stockton has never seen a death from the disease, though at times it has seemed impossible that the child should continue to live. Death must be due to some complication in an important organ besides the stomach.

Dr. Johnson of Washington said that in children intermittent vomiting always occurred in the offspring of neurotic parents. Usually the children were precocious, at times neurasthenic, often hysterical. Just when death seemed certain recovery came. At times the vomit contained blood, fresh, or more usually altered, so-called coffee-ground material. The symptoms of prostration were often intense. The extremities and tip of the nose became cold and cyanotic, the lips blue, the child became restless in its exhaustion. This choleraic condition seems to be due to the abstraction of water from the tissue by vomiting and can be relieved by the hypodermatic injection of normal salt solution. By this means also the toxin in the circulation, which may be the same as in neurasthenia, is diluted.

Dr. Kinnicutt of New York said that enteroclysis is also of great benefit in this condition. The increase of blood pressure also causes a freer elimination by the kidneys. Dr. Forchheimer of Cincinnati said that milder cases of this cyclic vomiting, apparently without definite pathologic basis, occur. In the intervals the children are constipated and are always neurotic. The malady has been called a psychosis by certain German neurologists. Hysteria is more frequent in children than has been thought. There are certainly toxins in these cases that are being eliminated by the stomach. The treatment should be directed to the intervals of the attacks. The constipation should be relieved, the child not allowed to overwork intellectually, nor over exercise physically. The general health should be improved.

Sanitarium Treatment of Pulmonary Tuberculosis and Its Results.—Dr. E. L. Trudeau of Saranac Lake, N. Y., then read this paper, which will appear in a subsequent issue of the MEDICAL NEWS.

Tuberculin and Its Uses.—In the discussion Dr. Bridge of Los Angeles said that tuberculin, even when used as carefully as by Dr. Trudeau, seems to do very little, if any, good. In other hands it often does harm. The use of any serum for treatment seems to lead inevitably to a neglect of other and especially the precious hygienic, dietetic, and therapeutic measures. If but rational means be employed the successful treatment of consumption outside of sanatoria is very possible. Three-fourths of the cases of incipient tuberculosis either are unable or cannot be persuaded to go to a sanatorium. For these the open air treatment at home can accomplish great things. Too many physicians labor under the delusion that the open air treatment means exercise in the open air. They advise long walks, bicycle riding and the like, and work untold harm on feverish patients. Some physicians also foolishly counsel the avoidance of the night air, as if there were any harm in the air itself after sundown. Then patients are allowed to eat often and what they wish instead of being counselled to eat often and plentifully of the most nutritious diet. Eat consumptives must, *nolens volens*, and their digestion must be cared for for this purpose. Dr. Soloman Solis Cohen of Philadelphia asked if respiratory gymnastics were not good for the consumptive. He had found them so in practice. He asked if Dr. Trudeau did not favor them. As to the tuberculin test Dr. Cohen thinks that it has positive disadvantages while its advantages are dubious. It should be employed only by the most skilful. While in Dr. Trudeau's hands it has been useful and its employment is thoroughly justified, it has, undoubtedly, been a fruitful source of harm in the hands of the inconsiderate and inexperienced.

Early Diagnosis of Tuberculosis.—Dr. Trudeau in closing the discussion said that a most useful means of early diagnosis of tuberculosis, which is too often overlooked, is the regular taking of the temperature several times a day for a week or ten days. When any disturbance of health exists, and the evening temperature runs above 99½° F., there is almost surely tuberculosis present. It is surprising how many careful physicians neglect this simple means of very early diagnosis. As to the use of tuberculin it seems to be a valuable means of diagnosis, and we need further information with regard to it. One thing is certain, it should never be used when there is fever or when the case is progressive. Some experiments on animals at Saranac seem to prove that the injection of such doses of tuberculin as are used for diagnostic purposes do not do harm. Guinea-pigs inoculated with tuberculosis did not die sooner as the result of injection of tuberculin. A still more demonstrative experiment was made upon rabbits. Injections of tuberculous material mere made into the cornea. Here the progress of the local tuberculous process can be watched very readily. Into some of the animals tuberculin sufficient to produce a reaction was injected. Others were left untreated. The progress of the tuberculous processes was the same in both classes of animals. This would seem to be a demonstration of the inocuousness of the tuberculin.

Patients suffering from tuberculosis need the care of a physician to supervise their exercise, diet and digestion. This they do not have continuously for months outside of a sanatorium, and, consequently, the open air treatment at home usually fails.

Oxaluria.—The secretary read, for Dr. C. A. Herter of New York an account of some work done in his laboratory by Dr. Helen Baldwin of

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New York, on oxalates in the urine. Oxalate of lime is found in normal urine in varying quantities from traces up to 35 milligrams in the twenty-four hours. The average excretion of oxalates is about 10 milligrams a day. Most oxalates come from oxalates consumed, and exist quite plentifully in certain plants, as in rhubarb. There is only one condition in which the oxalates are produced within the body. This occurs in certain cases of fermentative dyspepsia. The withdrawing of a test meal, even where only proteids were given, has shown that oxalic acid can be formed *de novo* in these circumstances.

In the discussion Dr. James Tyson of Philadelphia said he does not think that oxalate of lime in the urine is ever of pathologic significance. It occurs irrelevantly in nervous and in perfectly healthy people. No connection can be traced between it and any symptom. It can be removed from the urine very readily by an absolute milk diet. Vegetables seem to favor its recurrence.

Acute Suppurative Gastritis.—Dr. Kinnicutt of New York presented the stomach of a patient dead from acute suppurative gastritis of the phlegmonous variety. The submucous gastric tissue was more than an inch thick near the pylorus. The tissues were all infiltrated with pus corpuscles. The only organism found in the stomach was a streptococcus growing in long chains eight to ten members in each chain. The patient was an alcoholic. The symptoms developed after a preliminary chilliness, not a chill, followed by fever with symptoms of pain. A state of collapse then developed. The affection was diagnosed peritonitis from perforation of a duodenal ulcer. He was considered too weak for operation.

Dr. Janeway said in discussion that in a similar case the diagnosis was perigastritis, cause unknown. These cases were extremely difficult of diagnosis.

SECOND DAY—MAY 2D.

Actinomycosis-Organism and Lesions.—Dr. J. H. Wright of Boston exhibited stereoscopic pictures of the ray fungus and its lesions. He said that the disease is commoner in the human being in this country than is usually thought. The lesions are small abscesses in a connective tissue capsule. Within these abscesses may be found the radiate filaments from which the disease derives its name. Between the filaments there is hyaline material which is really composed of dead filaments. Club-shaped characteristic appearances occur at the periphery of a colony. There are also degenerated filaments. When the disease becomes generalized, abscesses may occur in the kidney, lung, liver, the abdominal wall and in the extremities. Dr. Wright exhibited an abscess of the human heart wall bulging into the ventricle. The disease in this case began in one of the vertebræ and spread to the pleura.

Diagnosis.—The diagnosis of the disease can be made from certain granules that occur in the pus of the abscesses. They are gray in color, often of pearly lustre, of the size of a head of a pin or smaller. When the granules are crushed beneath a cover glass, they break up into segments that have, under a low power, a chrysanthemum appearance. This radiate structure is very characteristic, but to obtain it the granules must be perfectly fresh when crushed. The microscopical diagnosis depends on the presence of filaments which branch, this is essential, and in the midst of these there occur darker bodies, the so-called spore forms. In the discussion Dr. Da Costa of Philadelphia said that the most effective drug for the treatment of actinomycosis is potassium iodide in large doses. This has commended itself to the veterinarians and has in Dr. Da Costa's hands given very good results in human beings, especially at early stages of the disease. Properly used the remedy is permanently curative.

A New Pathogenic Fungus.—Dr. Hektoen of Chicago exhibited slides and photographs of a sporothrix resembling that first described by Schenck at Johns Hopkins. It was found in a boy in whom multiple abscesses occurred on the hand and arm, as many as twenty in all having been opened. In the thick, viscid pus from these abscesses, this sporothrix was found in pure culture. In stroke cultures it grows with radiate feathery margins. In plate cultures spore bearing threads occur at the periphery. Conidia or spores are noted all along the filaments but especially at the ends where five or six may be grouped together. There are distinct septa in the threads.

The organism is especially pathogenic for mice and white rats. It produces typical ulcers with undermined edges. On the peritoneum it produces tuberculiform nodules. The spores are club shape, not unlike those of actinomycosis. Only three cases of the disease have been reported in the human being, and one of these was recognized clinically but not studied bacteriologically. Infection took place in all three cases through a small wound of the hand. The cases occurred in widely separated parts of the country. It is probable then that the disease exists much more commonly than might be thought.

Pernicious Anemia.—Dr. Richard C. Cabot of Boston detailed some conclusions arrived at after a study of 110 cases of this rare disease. Although contrary to the usual experience there were more men than women among his cases. Only four of the cases followed parturition. Pernicious anemia is distinctly a disease of the age past forty. Eighty-two of his patients were over forty, nineteen over sixty, four over seventy, the oldest was seventy-nine, the youngest nine years of age. The fatal anemias in early childhood are not included in this list. The number shows that the disease is much more frequent near Boston than has been thought. The same probably holds true for the rest of the country. It is interesting to know what it is called when not recognized. In one case near Boston it was diag-

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nosed general tuberculosis, by which was meant supposedly acute miliary tuberculosis. In three cases because of the presence of fever it was thought to be a typical protracted typhoid fever.

Etiology.—This is difficult to trace. Fourteen cases occurred about the time of the menopause, but could not be said to be connected with it. Four cases had tertian malaria, but this does not seem a causal factor despite all that has been said on the subject. Only one patient gave a history of syphilis. Thirty-seven had suffered from hemorrhage but this seemed to be a symptom, not a cause. The favorite sites of bleeding in the order of frequency were the bowels, nose, and gums. In one case a hemorrhage of over a pint took place from the external meatus of the ear—an unusual location for the source of bleeding in so large a quantity.

The disease is never constantly progressive. A number of the cases felt tolerably well and were even able to work at intervals. There is no constant relation between the symptoms and the extent of the anemia. One man with but one-half million of red blood cells wanted to go to work; another with a blood count of three millions felt incapacitated. There is some other factor besides anemia, probably a toxemia, that influences the symptoms. The first symptom in every case is intense muscular weakness. Dyspnea is another universal symptom. Gastro-intestinal symptoms are common, but they are neither constant nor progressive. Intervals of perfect digestion occur. This would not be true if the disease were due as some claim to atrophy of the gastric tubules. The appetite is capricious, often poor. In two cases appetites were too great to be satisfied. Fever is noted two-thirds of the time. In two cases the dark urine so often spoken of was present. In the other cases pale urine was excreted. In one-third of the cases nerve symptoms developed. These are due to changes in the spinal cord and may simulate tabes or diffuse myelitis. There is always a marked leucopenia. In one case less than 1000 white cells to the cubic millimetre were present. Megaloblasts were found in every case where more than one blood examination was made.

Remissions — Causes — Significance. — Pernicious anemia is never progressive, despite the use of that word in its usual name. The causes of the remissions are unknown. They are usually attributed to some treatment that is being administered at the time. Nothing seems capable, however, of modifying the progress of the disease, which is very capricious. During a remission the number of red corpuscles increases. Sometimes the hemoglobin does not increase as fast and a disproportion between corpuscles and coloring matter occurs which gives the blood picture of chlorosis, that is of secondary anemia. It is well then to know the history of the case before venturing a diagnosis. When the red corpuscles increase in number the leucocytes do so also. This gives rise at times to a leucocytosis—a rare event. During remissions the red cells are often very large. In one case with 2,500,000 reds the patient was healthy and ruddy. His red blood cells contained double the normal amount of hemolobin, so that with only 50 per cent. of cells he had 100 per cent. of hemoglobin. In this case the red cells were so large that they resembled the blood corpuscles of some other species of animal. After some time of remission this case relapsed to a fatal termination.

Differential Diagnosis.—It is not so difficult as is often claimed to differentiate primary or pernicious from secondary anemia. The differential diagnostic points are, briefly, as follows: Pernicious anemia develops slowly, is painless and insidious, the patient's appearance of good health remains for a long time, symptoms referable to the spinal cord develop very frequently, there are paroxysmal attacks of gastric disturbance and there are marked remissions in symptoms which bear no relation to treatment. In secondary anemia a cause can be found; there is a steady progression as long as that cause acts; there are many small red corpuscles present; megaloblasts are much less numerous than in pernicious anemia and there is a disproportionate reduction in the hemoglobin.

Course of Pernicious Anemia.—The average duration of the disease is from one to two years. It may last with remissions for five years. Coma may develop, and yet the prognosis of approaching death is not justified. Dr. Cabot has had a patient recover from pernicious anemic coma to comparative good health. No patient in whom the diagnosis of the disease seemed justified has ever recovered.

Treatment.—No method of treatment seems to have any effect on the disease. Arsenic is useless, bone-marrow futile. Only laxatives seem to do any good. This would seem to confirm the theory that the disease is due to an intoxication and that some of the toxins may be eliminated by the intestinal mucous membrane. All the mild cases of the disease have diarrhea, and this also supports the theory mentioned.

Symptoms of Pernicious Anemia.—Dr. Frank Billings of Chicago discussed nineteen cases of pernicious anemia. Eleven were males, eight females. The average age was forty-six years. The average age in Byron Bramwell's cases was forty-five years—a practical agreement of statistics. In none of the cases was there any known cause for the anemia. In but one case had there been syphilis. There was not alcoholism, nervous shock, mental worry, nor overwork, physical or mental. The first and invariable symptom was the intense muscular weakness. This was practically always accompanied by dyspnea and palpitation of the heart. Diarrhea, as in Dr. Cabot's cases, was the rule. Nervous symptoms developed in one-third of the cases, and the first symptom was usually paresthesia of the legs. Headache was common; sleeplessness and restlessness frequent. It one case the first symptoms noted were due to the changes in the spinal cord.

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The condition was diagnosed myelitis by one neurologist and neuritis by another. Paraplegia developed and the blood showed the characteristic picture of pernicious malaria. A very common symptom is the lemon-yellow color.

Blood Findings.—The number of red blood cells is sometimes very much reduced. In one case there were less than 200,000 to the cubic millimetre. The nucleated red corpuscles are not only of diagnostic but of prognostic importance. They usually become much more numerous shortly before death. On the other hand, just before a decided remission sets in there is a crisis in the nucleated red cells and they may even entirely disappear. This does not mean lasting cure, however. Relapses always occur. There are, perhaps, possibilities of cure in pernicious anemia, but there are no cases recorded, and the more the disease is studied, the more absolutely hopeless it seems.

Clinical Notes on Pernicious Anemia.—Dr. Frederick P. Henry of Philadelphia said that either pernicious anemia is not so frequent in Philadelphia as in Boston or else it goes unrecognized. He has not seen anything like the number of cases reported by Dr. Cabot, though he has been faithfully studying the disease since 1878. Five recent cases seem worth reporting for various reasons. One of the patients felt in very good health, with but 2,500,000 of red blood cells. It is probable in this case that the number of red cells natural to the individual was low and that 50 per cent. of the normal number was not so far away from the healthy condition as might be imagined. In one case a patient, discouraged by bad reports from the blood counts, refused to allow any more, though he adopted all measures of treatment advised. In one case Breckinridge's transfusion method was employed. Human blood was used for the purpose. It was kept fluid by the addition of 5 per cent. solution of phosphate of soda. Six ounces of blood were obtained from a negro who suffered from epilepsy. Ten days after the transfusion the pernicious anemia patient developed a conclusive attack, with spasms limited to the right side of the body. As he had never suffered from any convulsive seizures before, this occurrence created a great deal of comment because of the transfusion of blood from an epileptic. No improvement of the pernicious anemia followed the transfusion and further convulsions did not occur.

Treatment and Possibility of Cure.—There are certainly remedies that benefit the disease. Among these in the first place is arsenic, pushed to its physiological limit. In one case Dr. Henry has seen an absolute cure. The remedies employed were naphthalin, as an intestinal antiseptic, until it became too unpleasant to take from its persistent after taste. After this bismuth salicylate was employed and frequent minute doses of calomel. The appetite was practically nil and seemed to be greatly benefited by orexin. This did not prove similarly effective in other cases of the disease with this symptom of lack of appetite.

Special Peculiarities.—In two cases freckle-like spots developed on patients suffering from pernicious anemia. In one case this was accompanied by a universal bronzing. The disease has a tendency to be complicated by erysipelas and one of Dr. Henry's cases died from that affection. The diagnosis of secondary anemia due to gastric cancer is not difficult as the number of red blood cells is never as much reduced as it is in pernicious anemia. Dr. Henry has not seen less than 1,000,000 red blood cells in cancer cases.

Family Pernicious Anemia.—Dr. Kinnicutt of New York reported a fatal case of pernicious anemia in a child of seven years. The special interest of the case attaches to the fact that the sisters of the child, aged respectively fourteen and sixteen years also suffered from pernicious anemia although neither of them has died as yet.

Dr. Hobart Amory Hare said in discussion that pernicious anemia cases come oftener from the country than from the city. At Jefferson Hospital they come especially from the mining regions of Pennsylvania. Certainly the transfusion of blood cannot do any good in these cases since we know that the blood corpuscles of one animal will not live in another animal nor even those of one human being in another. Most of the benefit derived from such treatment is a mere coincidence.

Oral Suppuration.—Dr. Wm. H. Thomson of New York said that Hunter in his last 10 cases reports that in all of them there were suppurative processes in the gums and at the roots of the teeth. When the stomach was washed out it contained a notable number of streptococci. In the last case of pernicious anemia that came under Dr. Thomson's care the patient's mouth was carefully examined. No less than eight carious teeth were found and one tooth was pouring out pus. Hunter's theory is that in these cases the constant swallowing of purulent material leads to the production of a toxemia and in addition the presence of large numbers of micro-organisms of suppuration in the stomach disturbs digestion and nutrition. This idea of Hunter that the condition of the oral cavity may be an etiologic factor in the disease deserves further investigation.

Hypodermoclysis for Pernicious Anemia.—Dr. McPhredran of Toronto said that of 22 patients with pernicious anemia that he has seen 2 have recovered. He has used hypodermic injections of various sera, diphtheria serum when no other was at hand, and normal salt solution at times and has had excellent results in relieving severe symptoms. The average duration of weakness, tendency to coma and the like Dr. McPhedran thinks is larger than was said by the readers of the papers.

Dr. S. Weir Mitchell of Philadelphia said that all blood counts were relative, not absolute. Some years ago Dr. John K. Mitchell showed how much difference in successive blood counts was made by massage in the interval. Wherever the circu-

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latory blood can be seen it will be noticed that clumps of cells remain for some time stationary at the divisions of blood vessels, and in small loops of the capillary circulation. These are turned into the circulation again by massage.

Dr. Stockton said that careful examination of the stomach contents of patients suffering from pernicious anemia showed that hydrochloric acid was absent in all cases. Before the fatal termination all digestive power ceased entirely and the condition known as achylia gastrica developed. This seemed to confirm the theory of the etiological importance of atrophy of the gastric tubules.

Dr. J. C. Da Costa of Philadelphia said that as to the length of remissions it did not seem to be affected much by conditions. In a clubman who was not a man of excesses but absolutely indolent the remission lasted eleven months; in a sailor who worked hard in the interval the remission lasted seven months. Dr. Da Costa has often seen high fever accompanying pernicious anemia and has even seen the disease mistaken for typhoid fever.

In closing the discussion Dr. Cabot said that on patients suffering from pernicious anemia massage has less influence in causing variations in the blood counts than it has in healthy people. This he knows by actual experiment. As to transfusion it is not only useless but dangerous. Franz Pfaff has shown recently that blood injections are especially liable to damage the kidneys.

Proliferation and Phagocytosis.—Dr. F. B. Mallory of Boston read a paper in which he showed that weak toxins in the circulation cause cells to take on proliferative conditions, while stronger toxins cause necrosis and exudation. He showed that phagocytosis, in addition to being protective, as in the destruction of bacteria, may be malignant when body cells consume others. He described the state of affairs in an active testicle removed from an old man of seventy years of age to relieve hypertrophy of the prostate. In the epididymus large phagocytes could be seen swallowing active spermatozoa.

The Strongylus Intestinalis.—Dr. W. S. Thayer of Johns Hopkins showed pictures of this rare parasite which was obtained from the stools of a young man who was never out of this country, spending most of his life at Richmond, Va. This is the second time this parasite has been seen in this country. The other case was a native of Austria. It is probable that the worm is commoner than is supposed. It is usually associated with the anchylostoma duodenale and when one is found the other should be sought. Whether the parasite causes diarrhea or not is a question. When first seen in cases from Cochin, China, and the St. Gotthard's tunnel, it seemed surely pathological, but this is now doubted. The question is worthy of further investigation.

(To be Continued.)

The State Forests Increased.—The New York State Forest Preserve Board has decided to purchase a tract of 300 acres of forest land.

AMERICAN PEDIATRIC SOCIETY.

Twelfth Annual Meeting, Held at Washington, D. C., May 1, 2, and 3, 1900.

FIRST DAY—MAY 1ST.

President's Address.—Dr. Henry Koplik, of New York, read the annual address, entitled "The Ambulatory and Hospital Management of the Gastro-Intestinal Derangements of Infancy During the Summer Months among the Poor of Large Cities." He held that the breast-fed infant is not exposed to as great or as many sources of infection as the artificially-fed infant. In the latter, cow's milk is the substitute for the breast by common consent of all practical men. Yet before it reaches the infant, it passes through so many channels and is exposed to so many chances of infection that the wonder is the mortality is not larger than it really is. Milk, above all articles of diet, attracts to itself infection, even if such infection is not directly introduced into the milk. The animals from whom the milk is obtained can first introduce infection, and in saying this Dr. Koplik did not refer to tuberculosis, but to filth. The udder of the animal may be the means of introducing into the milk streptococci, which can cause virulent forms of diarrhea. Dairy dirt also may be introduced into the milk during milking. Again, in passing from utensil to utensil in commerce, the milk is exposed to a thousand and one sources of infection. Practical men will agree that cleanliness is the light that has penetrated the dark and baffling problem of infant-feeding. The foundation of all artificial feeding must necessarily be the breast-feeding; and yet, in this natural method, the greatest diversity is found in the quantity and quality of the food, tending to give equally brilliant results. In a limited number of studies on breast-fed infants, the result tends to show that the quantities vary; that one infant will take eighty-nine caloric equivalents daily, while another will take 126 caloric equivalents, and yet both infants will be equally well nourished. The fat varies largely in the same milk and in the milk of various breasts, and yet the children of each breast thrive. In cow's milk, the problem is a more difficult one. The milk must not only be diluted, but the waste of the proteid constituents of the milk is large even in thriving infants. The increase in the phosphorus in the excreta indicates this. It is not sufficient, therefore, to simply construct the infant's milk of the breast proportions, but the waste and the necessity of dilution must be taken into account. The keynote of Dr. Koplik's theme was that the gastro-intestinal diseases, both mild and severe, are, in the vast number of cases, infectious.

Intestinal Obstruction.—Dr. Irving M. Snow of Buffalo, N. Y., presented a specimen in which Meckel's diverticulum measured twelve inches, the portion constricted being the last foot of the ileum. The patient was a boy, three years of age,

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and in good health up to the present illness. The history of the case is that he fell a short distance from some steps, striking on the abdomen to the right of the navel. Not any bad effects followed this accident; in fact, there was complete relief in an hour. A day or so later the child ate freely of grapes, and there was reason to believe that this dietetic indiscretion, by producing intestinal irritation and increased peristalsis, was the exciting cause of the obstruction. Three days after the accident the boy had a normal fecal passage, but commenced vomiting and vomited persistently for four days. Laxatives and enemata failed to move the bowels, which were obstinately constipated during five days. There was also agonizing and nearly continuous abdominal pain, so intense as to require opiates. There was not any tenderness, induration or abdominal tumor to be felt. The belly was slightly distended and there was some gurgling and rumbling on palpation. The temperature was slightly above normal, and, as a matter of fact, the illness ran its entire course without fever. After an illness of twelve days the patient died. The post-mortem showed that the cause of death was due to exhaustion and inanition from pain, vomiting, and interruption of assimilation from an unrecognized abdominal obstruction. The condition was not recognized as intestinal obstruction, and not being relieved by operative treatment ended in death.

Dr. Augustus Caillé of New York reported a case in which the symptoms of obstruction were present, but the obstruction was not complete. It was his conclusion that in such instances exploratory laparotomy should be done on the first occasion of fecal vomiting. The case reported resulted in death, but the patient might have been saved by prompt surgical interference, as suggested.

Dr. Samuel S. Adams of Washington reported a case that was not operated on until the symptoms became alarming. While the patient was being placed under anesthesia there was a free movement of the bowels, but on opening the abdomen the invagination was found to be undisturbed. The patient recovered.

Dr. W. S. Christopher referred to a case where air was injected into the intestines after the abdomen was opened, and it was his opinion that sufficient pressure could have been exerted to burst the intestines without loosening the intussusception. This case was of especial interest inasmuch as it was the second time intussusception had occurred in the same patient and been treated by Dr. Christopher. The patient recovered from the second attack.

In closing the discussion Dr. Snow said it was extremely difficult to make a diagnosis in cases where the symptoms are obscure. It was his opinion that an exploratory incision should be made if there be even a doubt as to the diagnosis.

Pancreatic Digestion of Caseine.—In the experiments set forth in this paper Dr. B. K. Rachford of Cincinnati, O., used rabbits' pancreatic juice, which was collected in a common receptacle and afterward equally divided between the digestion tubes of an experiment, so that each tube might contain an equal quantity of pancreatic juice of like digestive capacity. The bile was also obtained from the rabbit, and filtered before using. Ordinary dairy milk was employed which had been boiled and neutralized. He observed at the close of certain experiments that free fat or butter was found floating on the surface of digestive mixtures in which the milk had been subjected to the action of both bile and pancreatic juice. The physiological emulsion of fats, as it occurs in milk, was partially destroyed by the combined action of bile and pancreatic juice, but this emulsion was not destroyed by either one of these agents when acting alone. This led to the observation that possibly the emulsion of fats in milk is wholly or partially destroyed by the action of bile and pancreatic juice in the intestinal canal prior to their absorption.

Dr. Augustus Caillé, in discussion, approved of hydrochloric acid to assist digestion in children from one to two years of age.

Dr. L. E. Holt of New York said he did not believe in giving hydrochloric acid to babies. He thought the best way was to pay attention exclusively to the diet.

Dr. A. D. Blackader agreed with Dr. Holt that the diet was of paramount importance.

Dr. T. M. Rotch of Boston did not think that farinaceous matter assisted digestion as much as lime-water, and, therefore, there might be some objection to the former. He preferred giving lime-water.

Dr. Rachford, in closing the discussion, said that his paper was not intended for a clinical paper. His object was to determine how babies should be treated; how these investigations are to be followed would have to be determined afterward. There were two things to be considered, he said. One was whether hydrochloric acid did cause a larger amount of caseine to be digested by the pancreatic juice, and the other was whether in examining the stomach hydrochloric acid was found to be deficient.

Operative Treatment of Tuberculous Peritonitis.—Dr. Augustus Caillé presented this paper and stated that the cases related were carefully studied by him before operation and had been under observation for two or three years after operation, so that he had a clear insight as far as the beneficial effects of the operation were concerned. A number of cases were reported, including one in which a diagnosis of tuberculous peritonitis was made by exclusion and in which tuberculosis of the hernial sac was discovered during a Bassini operation for the cure of the hernia, which operation also affected a cure of the tuberculous peritonitis, although the abdomen was not encroached upon.

Another interesting group of cases presented solid tuberculous tumors of the peritoneum and mesentery, two of which Dr. Caillé had observed himself. They presented a distinct variety apart

from the other well-known forms of tuberculous peritonitis. A particularly interesting case was one in which the diagnosis was made quite early, but operative interference was refused, and for the greater part of two years all known methods of medication, internal and external, were persisted in without any apparent benefit.

From a study of the cases presented, Dr. Caillé's conclusion was that medication is futile as far as cure is concerned. The diagnosis is made by exclusion, except where the tubercle bacillus is found in the puncture fluids, when a diagnosis is positive. In all doubtful cases an exploratory laparotomy is imperatively indicated because surgical interference can only effect a cure in cases that are recognized very early and are not complicated by tuberculosis of other parts. The main diagnostic features are the abdominal symptoms, pain, distention, disturbed bowel action, effusion, and in every case carefully observed by Dr. Caillé there was a low, irregular tumor. It was not characteristic in itself, but was present in every case observed.

Dr. J. Henry Fruitnight of New York said he had obtained good results in the Children's Hospital following an operation in a number of cases of tuberculous peritonitis, but he did not believe that the recovery in such cases could be considered permanent.

Dr. Rotch, referring to some two hundred autopsies in fatal cases of diphtheria in infants and young children, in which there were seventeen cases of tuberculosis in some part of the body, emphasized the importance of diagnosis between primary and secondary peritonitis. The treatment of tuberculous peritonitis, which is secondary to disease of the lungs, is almost useless. When the disease is primary, laparotomy gives good results. He stated that many cases of peritonitis, with or without effusion, are tuberculous even when the tuberculosis may not be demonstrated. He reported a case in which an enlarged mesenteric gland was removed, and dwelt on the importance of the early removal of such glands whenever they are tuberculous, in order to prevent the further spread of infection. The use of tuberculin in diagnosis was considered by him very important, especially in cases where there is a low range of temperature, because where the temperature is 102° or 103° F. the result is not so favorable for its use.

Dr. A. C. Cotton of Chicago stated that in the absence of positive clinical evidence he was often driven to bacteriologic findings to decide the diagnosis in suspicious cases of tuberculous peritonitis. He raised the question as to how far practitioners are justified in doing exploratory laparotomy in such cases.

Dr. Rotch replied that he did not see why exploratory laparotomy should not be done in all cases.

Dr. Jackson laid stress on the examination of the blood for leucocytosis, although such examination would not differentiate the disease from typhoid fever.

Dr. Koplik called attention to sarcoma, which it is important to differentiate from tuberculous masses in cases of peritonitis.

Dr. Caillé, in closing the discussion, considered medicinal treatment in these cases of no avail, and stated that it was not worth while to waste time on guaiacol and creosote. The diagnosis, he said, is frequently not made positively because tuberculosis cannot be found. If the disease is suspected, then it is an absolute duty to open the abdomen. Fluid in the abdomen may be due to a chronic malarial infection or a large spleen or sarcosis, anemia, nephritis, or to valvular disease of the heart. It was his opinion that if the diagnosis could not be made otherwise the opening of the abdomen is harmless. The patient, being under an anesthetic, does not suffer pain, and it was Dr. Caillé's belief that a physician would be derelict in duty if he did not advise laparotomy in suspected cases in which the diagnosis is not absolute. He did not lay very much stress on the examination of the blood, as such an examination would not differentiate cases of tuberculous peritonitis, and every case of infection caused by chronic malaria or anemia, although he admitted that such an examination might sometimes aid in the diagnosis.

Studies on the Blood in Childhood.——In the absence of Dr. Alfred Stengel and Dr. C. Y. White of Philadelphia their joint paper on the above subject was read by title.

SECOND DAY—MAY 2D.

The Treatment of Hydrocephalus by Craniectomy.—Dr. Edward P. Davis of Philadelphia, in his paper on the above subject, referred to the case of an infant six months old. The mother of this infant had two other children. Before the birth of this child the mother was in excellent health. The birth was spontaneous. The mother nursed the child for three weeks, when she had what was described as a "bilious attack," and the secretion of milk failed. The child was then fed on starchy food. The child weighed at birth five and one-half pounds, and at six months nine pounds. It was brought for treatment because it was restless and had a poor appetite and did not seem to be gaining. It was decidedly stupid and evidently suffered from intra-cranial pressure. The child was transferred to the Jefferson Hospital, where it was seen by Dr. W. W. Keen in consultation. An effort was made to secure continuous drainage, but it did not seem to withdraw the fluid from the ventricles. The child was anesthetized and under antiseptic precautions the cranium was trephined at one side of a sagittal suture and in the parietal bone on the right side. Dr. Davis thoroughly described the subsequent operations and results and stated that the child finally collapsed and died.

Dr. Rotch, in discussion, referred to a case in the Infants' Hospital in Boston, and said that so far as the operation is concerned, it seems to be very simple and no bad results come from the

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operation as such. They were either treated with one tapping or, as in some other cases, they were kept for perhaps weeks with frequent drainage with tubes introduced into the ventricle, and the fluid withdrawn every day. The results were invariably bad so that the opinion in Boston now is, from what has been observed, that the operation is in no way curative. It may perhaps be palliative, making the child more comfortable for the time being.

Dr. Dorning reported a case where two ounces of fluid was withdrawn; after the puncture the child became very quiet, convulsions ceased and the child seemed to improve for about three weeks, but after that, unfortunately, he lost track of the case.

Dr. Koplik reported three interesting cases that came under his observation. In one case which he had seen lately, a baby, seven months old, developed symptoms very much like those in tuberculous syphilis. The child was tapped in the lumbar space and each time ten to twenty c.c., varying according to the indications, was taken. The baby seemed to improve after each tapping, the convulsions ceasing. After tapping the child six or seven times during the week, the results appeared to be good. By tapping the amount of fluid in the ventricle was reduced; it was not intended to take off all at once. The relief by pressure probably precipitated the result. It was a straightforward clinical case of chronic hydrocephalus.

Dr. Rotch stated that in a case he had operated on in the Infants' Hospital, the greatest care was taken to keep a record of the amount of pressure under which the fluid was withdrawn and the amount during the whole sickness until the child died. It was quite an interesting experiment but he did not think it would lead to anything clinically. It impressed him as being a palliative treatment.

Dr. Davis, in closing the discussion, said that the danger of immediate death seemed to depend very largely in this case upon the amount of fluid withdrawn, and hence the operator should be solicitous as to the minimum of fluid which should escape. Hence, the effort to maintain pressure while the drainage is being inserted.

The Nephritis of Influenza in Children.—Dr. Rowland G. Freeman of New York in presenting his paper, cited a case of a boy, four years of age, who, for the past three years, suffered each winter from an attack of influenza. The present attack began the first of January, 1899, with the ordinary symptoms of cold—prostration, fever, and moderate earache, but at no time was there any discharge from the ear. January 31st he had a temperature of 102.5° F., the highest temperature being 105° F. on February 5th. The temperature gradually diminished. February 9th it varied between 100° F. and 101° F. On this date the child passed some very red urine, which contained a considerable amount of blood, about 5 per cent. by bulk. His conclusions were that, although albumin is fairly frequent, the influenza of nephritis is a rare complication. The nephritis complicated in influenza is usually clinical, of an acute hemorrhagic type, and morphologically shows toxin lesions. It apparently attacks children more often than adults. Any disturbance may appear a few days after the acute symptoms of influenza or as long as a month later. He added that the prognosis is fairly good.

Dr. Fruitnight said, in discussion, that in fifty-seven cases he had found but one case of albumin which disappeared in a few days. It was a very rare complication.

Dr. Dorning thought more care should be exercised in examining children. He reported three cases of complicated nephritis. The entire family had suffered from influenza and no attention was given to the urine until one child, nine years of age, had shown some edema of the face. An examination of the urine showed 30 per cent. of albumin and a large number of blood-casts. This ran for three weeks before the casts in the albumin entirely disappeared. Another child, four years old, showed edema of the face. In this child's urine blood-casts were found. These conditions cleared up and the children recovered. Another case of a child, four years old, was reported in which influenza affected every member of the family, and showed a very pronounced form of nephritis. The mother brought the child to the speaker's office, stating that his face had become swollen and that the swelling had disappeared some four days previously. On examination the urine showed blood-casts and 50 per cent. of albumin. There was a loss of appetite. The urine is not yet cleared up, but the edema disappeared in three weeks.

Dr. Jennings reported one case of nephritis following a double infection. The influenza appeared first and was followed by nephritis. So far as his observation goes nephritis is equally as rare as a complication of measles. This case of nephritis was of a mild character. The urinary findings amounted to sixteen ounces, and the specific gravity 1015. There was an abundant precipitation of albumin, and also blood-casts. The urine cleared up in a very short time and the blood-casts disappeared on the third day. The granular casts persisted in a few numbers for perhaps a week. The urine increased to twenty ounces on the third day; twenty-eight on the fifth day, and after that the child was practically convalescent.

Dr. Rotch said it would be very interesting to see a post-mortem of a case following influenza. The probability is that these cases of nephritis and influenza are of an acute interstitial type following the general rule of an infectious disease. It is important to make a diagnosis of any special form of renal disease in young children by means of an examination of the urine; that is, if the rule is followed which is usual in making a diagnosis in adult cases.

Dr. Carr said that the clinical phenomena are very much the same as those reported by Dr. Freeman—temperature-range and other condi-

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tions. In a case reported by him a very striking feature was the suddenly developed taste of the child for sugar. It would not take any medicine unless it was sweetened. The case was of interest to him because of a sudden increase in the specific gravity, this fondness of this child for sugar, and the absence of albumin.

Dr. Churchill said he would like to raise a question in these cases of influenza, and also other infectious diseases, whether they are not often the beginning of inward trouble which develop later on in life, particularly at puberty or still later, and whether we do not find manifestations of inward trouble by careful and thorough examination of the urine. Evidence was found of what might be called renal irritation after the actual nephritis. He reported a case of a young man nineteen years of age, suffering from an attack of appendicitis. He examined the urine simply as a routine practice and found chronic nephritis. It is his opinion that there is no way of determining the standpoint of the nephritis.

Dr. Caillé was astonished at the recuperative power in children. He has seen many desperate cases of nephritis cleared up in time completely.

Dr. Freeman, in closing the discussion, stated that the examination of this child's kidneys had been made more than a year ago, and during all this time the kidneys remained perfectly healthy, and he never had any deviation from the normal. Concerning the ear as a factor in this matter, there was at no time any otitis. During the month of January and the month preceding this attack the child complained at times of pain in his ear, but it passed off in a few hours, and there would be nothing more of it, perhaps, for a week. There was never any special tenderness about the ear, except for an hour or two. These cases are the result of a fairly exhaustive search through the literature of the past ten years, and he hoped by calling attention to this matter that there might be some interesting points made.

Bursting of Caseous Gland into the Trachea.—Dr. Augustus Caillé of New York presented a specimen taken from the body of a girl. The autopsy revealed a cold abscess about the size of a walnut, a little above the bifurcation of the trachea. The contents were cheesy matter. It had ruptured into the trachea and the cheesy matter from the abscess had completely flooded the trachea.

In response to inquiries, Dr. Caillé said that the child had been sent into the hospital with a diagnosis of bronchitis. The house-physician, in going over the child, heard a few râles beneath the sternum. The patient had no fever, no pain, and hardly any cough, but was playful and in apparently good health and was not put to bed at all.

Dr. Rotch, in discussion, called attention to the fact that many children are tubercular when there is no suspicion that tuberculosis existed. It was his opinion that in almost every case when a child has a cough, his health must be guarded. The case in question showed no evidence of tuberculosis.

Dr. Dorning stated that he had resorted in a great many cases to elevating the face, which tended to draw the trachea upward. And in only one case was he able to get a murmur. He was unable to say whether there was a large gland there or not, as the case passed from his observation and had no value from that standpoint.

Dr. Miller said that he had tried in a large number of cases the experiment referred to by Dr. Dorning, and it seemed to him that the murmur produced by tossing the head back and putting the face on a level plane is present in many normal cases.

Dr. West reported a case where the symptoms spoken of by Dr. Dorning were very prominent. He also referred to other cases where the symptoms were very prominent, and in one case that he had attended, the symptoms disappeared and then reappeared. In the case he saw last winter the child had a cough that resembled, to some extent, whooping-cough, and in another case he cited there was also resemblance to whooping-cough.

Endocarditis and Anuria.—Dr. A. C. Cotton, of Chicago, reported the case of a baby born March 19, 1900. The family history was negative, there being no history of syphilis obtainable. The mother was a primipara and had been well during gestation. She had never suffered from rheumatism. Labor normal. It was a well-developed child, presenting no external malformations. Meconium was passed shortly after birth. The child had a marked pallor which persisted, changing to a greenish hue, actual cyanosis supervening gradually. Examination of the heart showed a loud, harsh, diastolic murmur. It was heard all over the chest. It was hard to locate the exact position of this murmur. The child died of progressive asthenia on the fifth day, no urine having been secreted.

Dr. Samuel S. Adams, in discussion, stated that the question of anuria—the relation between the cardiac lesion as described and the anuria—does not mean that one is responsible for the other.

Enteric Fever in Childhood.—Dr. A. D. Blackader of Montreal in presenting his paper, referred to the outbreak of typhoid fever in Montreal which was due, in two instances, to the infection being conveyed in milk. He had made notes of twenty-nine cases of typhoid fever in his own practice, and had examined the records of forty-eight cases in the Montreal General Hospital and twenty-three cases admitted into the Royal Victoria Hospital. He treated of all the characteristics of the disease as manifested in these cases with the relative frequency of the various symptoms and the results obtained by treatment. His conclusions were the efficacy of the cold baths and the Brand method in the treatment of typhoid fever in children, and laid stress on the great value of the regular and systematic employment of the cool or cold bath in the treatment of this affection. It might be employed regularly without too rigid adherence to the rule of Brand of only using it when the fever reaches 102.2° F.

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He pointed out that the baths are not to be employed for its effect on the temperature so much as for its effect on the nervous system and through it, on the heart, respiration and secretion—especially secretion from the kidneys.

Dr. A. C. Cotton, in discussion, said that the matter of interest to him was to note the effect of the free movement of the bowels against constipation.

Dr. W. P. Northrup was of the opinion that children under two years of age are little susceptible to the invasion of typhoid fever. He reported the case of a child 9 months of age, which was the sixth case of typhoid fever in the same family. This infant was put to bed with a typhoid patient, the mother being the only well one to take care of the family. He cited another case of a child thirteen months old who was fed by its father from the same cup he used himself. He said that one of his patients craved ice cream and when it was ordered, he found it to be largely composed of corn-starch.

Dr. Griffith stated that typhoid fever is a frequent occurrence in infancy under the age of one or two years, and the symptoms were difficult to recognize on account of the youth of the patient. He thought rose spots should be looked after more carefully. He referred to the numerous cases of typhoid fever in Philadelphia, where he had considerable experience both in hospital and outside practice. He stated that he had repeatedly given up first tubbing and then sponging, as he found the children grew blue and that the pulse became weak, and that the tendency was to make them worse instead of better. Children do not bear water as well as adults.

Dr. Rotch stated that the symptoms of typhoid fever do not appear in early life so well as in later years. He thought that the cases indicated by Dr. Northrup showed severe symptoms. They were not common symptoms. Out of hundreds of cases in the Children's Hospital, only the very severe ones die; as a rule, they are exceedingly mild in early childhood. The lesions are not pronounced at the autopsy. The rose spots, he thought, would be found more common than usually supposed.

Dr. Wilson said that he entirely concurred in what Dr. Northrup had said with regard to infancy, carrying with it up to a period of two years a certain degree of immunity as compared with the next period from two to ten years and ten to fifteen years—the degree of immunity as compared with adult life.

Dr. Dorning said that in the use of water he thought there was room for great discernment. He is impressed with hydrotherapy and its value and also with its potency for harm. To get the benefit of both it is necessary to get reaction. If the flush becomes blue, it is doing harm. He did not believe that babies stand tubbing well. He said a baby could not be put into a bath of 68° F. with a temperature of 105.

Dr. Northrup referred to two thousand autopsies on children under two years of age, and in none had he seen typhoid fever. Eleven hundred of these children were fed on "corner-grocery" milk. He does not believe a child one or two years of age is susceptible to typhoid fever but he thinks that if they do get typhoid fever, they declare it.

(To be Continued.)

AMERICAN GYNECOLOGICAL SOCIETY.

Twenty-fifth Annual Meeting, Held at Washington, D. C., May 1, 2 and 3, 1900.

FIRST DAY—MAY 1ST.

The twenty-fifth annual meeting of the American Gynecological Society was called to order by the President, Dr. George T. Engelmann of Boston.

The Address of Welcome was delivered by Dr. Joseph Taber Johnson of Washington. He said that he had the honor of extending a hearty welcome to the members of the Society from all the members of the profession residing in Washington. He bade them welcome to all the public buildings, and urged them to stay as long as possible. This Society, which began in a very modest way one-quarter of a century ago, is the parent society of all the obstetrical and gynecological societies which are found in the larger cities, and it has a fine record of usefulness. It has done much to further original work and advanced study, and it has seen many changes in its life, among the most notable of which has been the reduction of the mortality of childbirth to the small figure of one-quarter of one per cent. Dr. Johnson then closed his remarks by reiterating a most cordial welcome.

Operation for Primary Vaginal Carcinoma.—Dr. William R. Pryor of New York read a paper on this subject. He said Freidl, in 1896, collected the statistics of only 130 cases of primary cancer of the vagina. In 1892-1893, out of 5341 gynecological cases treated in the Vienna Institution, there were only 15 cases of primary cancer of the vagina, or .22 per cent. Martin found only 4 cases in 5000 women that he examined. Vauvra of Prague collected the statistics of 8981 cases of cancer in women, and of these only 38 cases were primary in the vagina. Beigel found that in 8287 women who had died from cancer in only 14 had the cancer been primarily in the vagina, while in Myers' 266 cases of cancer in women 8 affected the vagina. In Vienna, cancer of the vagina occurs once while cancer of the uterus is found 68 times. The Prague ratio is 1 to 38. The primary cancer of the vagina usually affects the posterior wall, and it may extend back to the rectum, upward to the uterus, or involve other portions of the vagina. In the 18 cases reported by Olshausen in 13 the involvement was in the posterior wall. In both of the two cases reported by the author the growth recurred in the pelvis, involving the bowel secondarily. Olshausen's operation is generally the

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method of procedure. This has been modified by different surgeons, especially by Mackenrodt. The operation consists in a blunt dissection of the vagina from the rectum, which Mackenrodt modified by using the actual cautery at the end of the dissection. The result of this operation has not been gratifying, for 90 per cent. of the cases had a recurrence at the site of operation inside of one year. This is probably due to either some of the cancerous tissue being left behind, or else leaving tissue of low vitality, which soon underwent cancerous infection, or, lastly, the germ of cancer may have become implanted on the raw surfaces of previously healthy tissue at the time of operation. The author has devised an operation which has none of the objectionable features of Olshausen's operation and at the same time has more advantages. The technic consists in the preparation of the patient in the usual manner; an incision is made in the abdomen, in the middle line from the umbilicus to the pubes. The ovarian vessels are then ligated over the pelvic brim. The round ligaments are tied off close to the brim of the pelvis and the broad ligaments split down to the level of the uterovesical fold. As the folds separate the iliac vessels and ureter come into view and the latter is then freed from the iliac artery, and held to one side by an assistant. The internal iliac artery is then tied with kangaroo tendon. An incision is now made into the vagina, anterior to the cervix, and four silk sutures are passed through the intestine at the approximation of this incision, care being taken not to make too much tension. The sutures then enter on the vaginal face of the bladder, emerge on the peritoneal face, and are tied. The distribution of the internal iliac artery is then dissected out and the obturator branch is tied so as to prevent anastomosis with the deep epigastric artery. The abdominal wound is then closed, and the patient put in the lithotomy position. Any cancerous masses are then curetted and burned deeply with the actual cautery. The vulva and vagina are then circled with an incision, which leaves the anterior vaginal wall. A blunt dissection, which removes the posterior wall of the vagina and the perirectal tissue, is then made with scissors. The levator ani muscle is divided, and also some fibers of the gluteus maximus, and the dissection is carried up to the point where the sutures are in the bowel. The wound is then sutured, leaving a small opening to act as an artificial anus. The author's two cases had good control of all but very liquid feces. The great point in this operation is to be sure to remove all of the diseased tissue. The operation has a sound anatomical basis, and its surgical basis is as follows: (1) Prevention of hemorrhage. (2) Avoidance of injury to the cancerous field until it has been cauterized and its blood-supply cut off. (3) Removal of all organs in which there is liability of recurrence. (4) The establishing of an artificial anus near the site of the normal outlet. Both of the author's cases lived for a little over a year.

Dr. Mundé of New York opened the discussion by saying that he had seen two cases of carcinoma of the vagina in which the rectum was badly involved as well. The disease area was so great that extirpation was impossible, so he curetted thoroughly and followed this by cauterizing with the actual cautery. Both of these patients lived for two years, and there was a very marked amelioration in their symptoms. He is opposed to such radical operative measures as Dr. Pryor has proposed, for the reason that they do not seem to prolong life to an appreciable extent and are, therefore, useless.

Dr. Sutton of Pittsburg said that he has but little faith in operative interference in advanced cases. It would seem to be better if we should study the pathology of cancer, especially in relation to its etiology and not to try to make any further advance in operative procedure. After its etiology has been determined its cure will become a much more simple problem.

Dr. Van den Warker of Syracuse said he felt very strongly on this subject, as his home was in the "Cancer Belt," and his experience had been that all operative measures are of very little value, especially the old method with the clamp, which in his hands had proven to be an absolute failure.

Dr. Montgomery of Philadelphia said his experience is that recurrence occurs so often, and usually so soon after the operation, that he thought it was very questionable if it was wise to operate at all. There is absolutely no plan of operative procedure which insures against recurrence, for there may be nests of cancerous tissue well above the seat of operation, and these will develop at a future date. We are at present in an experimental stage and it is not possible to predict results in advance.

Dr. Byrne of Brooklyn said that his experience had taught him that there is but very little use in attempting to remove a cancerous uterus, as recurrence nearly always took place, and the patient's life was not prolonged by the operative interference.

Dr. Reamy of Cincinnati said that he believed operations for the removal of cancer to be of the utmost value. In his practice he had had six women who had lived long after an amputation of the cervix for cancer, one of them enjoying good health for twenty years subsequent to the operation. In the larger percentage of cases the cancer cannot be cured on account of the extensive lymphatic involvement. In the bad cases it is usually best not to operate, as the patient will usually live longer without operative interference.

Dr. Dudley of New York said he had seen several cases of primary vaginal cancer and that in these cases the recurrence is sooner than when the other pelvic organs are the seat of the disease. He considered Dr. Pryor's operation to be a very good one in every way.

Dr. Pryor closed the discussion by saying that it would be only a few years before the etiology of cancer would be definitely determined and then its treatment would be much simplified.

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Each case should be decided on its merits, and if an operation be indicated, it should be performed no matter what the influence might be on the friends of the patient. Either operate and go wide of the disease, thus removing it all, or else do not operate. Anything less than a radical operation does more harm than good.

Fecal Fistulæ.—Dr. I. S. Stone of Washington read a paper on this subject. He said the condition is one of the most distressing and annoying of post-operative sequelæ. These fistulæ usually heal spontaneously; if they do not it is because of some definite cause which keeps them open, such as extensive peritoneal adhesions or tubercular infection. Peristalsis that is reversed or is interfered with is another frequent cause of non-healing. Among the operations available for the treatment of a fecal fistula may be mentioned (1) freshening the edges and closure by suture; (2) resection of the gut and either lateral or end-to-end anastomosis with the Murphy button; (3) Greig Smith's operation or cutting down on either side of the fistula to the peritoneum without opening it; then dissecting two inches of this away from the abdominal wall on each side or around the fistula as a centre; then withdraw the peritoneum with attached and adherent bowel far enough to easily close the fistula; (4) and the method of the author, which is as follows: An incision is made in the vagina, as for vaginal hysterectomy; the fistulous tract is then opened and a rubber tube introduced through the vaginal opening into the rectum and secured in place by suture into the wound. This tube allows the escape of all gases and some thin fecal matter during the two weeks it is kept in position. After this time the sinus is washed out daily with weak formalin solution and, finally, the tract closes permanently. He has done this operation twice and in each of the two cases with the most gratifying results.

The following conclusions were drawn: (1) In all resistant fistulæ we must for obvious reasons remove any foreign body that may be present. (2) All attempts at skin closure or by cauterization or curettement of persistent fecal fistulæ are generally unsuccessful. (3) In all cases where a fistula connects with a superficial coil of intestine the method of Greig Smith may be tried before resorting to a radical operation. (4) In the deep-seated fistulæ requiring abdominal section, we must choose between excision and some form of anastomosis, for we will rarely find the case so simple as to permit of inversion of the fistulous portion and direct suture. (5) In operating for such deep-seated fistulæ we must not fail to liberate imprisoned bowel and restore the normal peristalsis, permitting free motion of intestinal coils, and direct the fecal current in its proper course. (6) Finally, in a recto-abdominal fistula we should if possible convert the same into a rectovaginal fistula and secure closure of the tract before the temporary fistula is allowed to close.

Dr. Johnstone of Cincinnati opened the discussion and said that as a matter of justice to two dead men he would state that the method outlined by Dr. Stone was taught by Lawson Tait to Greig Smith. The speaker said that he assisted Mr. Tait the first time he closed a fistula in that way, and it was his (Dr. Johnstone's) seventeenth operation. Ever since 1886 he has used this method in closing every form of fistula and in one case succeeded on the third operation in closing a ureteral fistula.

Dr. Smith of Montreal said that the injection of methylene blue solution was often of great help in determining the exact course of a fistulous tract and he cited a case in which this was clearly shown. Dr. Noble of Philadelphia said that he had seen many cases of fistula all but four of which had closed spontaneously. One of these four is now healing up while the other three are tubercular in origin. In these cases the prognosis is bad, whether operation be performed or not. It is a good general rule to wait a long while before considering operative interference, for in the majority of uncomplicated cases nature will eventually effect a cure.

Dr. Dudley of New York said that clean surgery did not always prevent fistulæ, for traumatism was often an important etiological factor. In small fistulæ it is well to wait for spontaneous closure which often takes place, but in those cases where the fistula is large operation is clearly indicated. Resection and anastomosis with the Murphy button is a very good way and in his hands has proven very successful. The fistulæ of the large intestine are more apt to heal spontaneously, but large fistulæ of the abdominal wall and either the large or small intestine nearly always require operative interference for their relief.

Dr. Mann of Buffalo said that the fistulæ of the large intestine usually heal spontaneously, while those of the small intestine must be operated upon. The further up the large intestine, or in other words the nearer to the stomach, the more difficult becomes the task of securing healing. Often a small fistula can be closed by freshening the edges and approximating them with sutures, but this is not possible when the fistula is a large one. In these cases the only thing to do is to resect the gut and do an end-to-end anastomosis. Occasionally a plastic operation on the abdominal wall will result in curing a small fistula. It is especially applicable in those cases not due to the presence of some foreign body.

Dr. Stone closed the discussion by saying that he thought the members of the society were agreed as to the danger of opening the abdomen in conditions of this sort, and this should only be done after every superficial method has been employed. The deeper fistulæ along the sigmoid and the rectum are those which give the most trouble. In regard to the claim of priority made for Lawson Tait and Greig Smith in the method pursued, the speaker said he had no idea that Mr. Tait claimed this procedure.

(To be Continued.)

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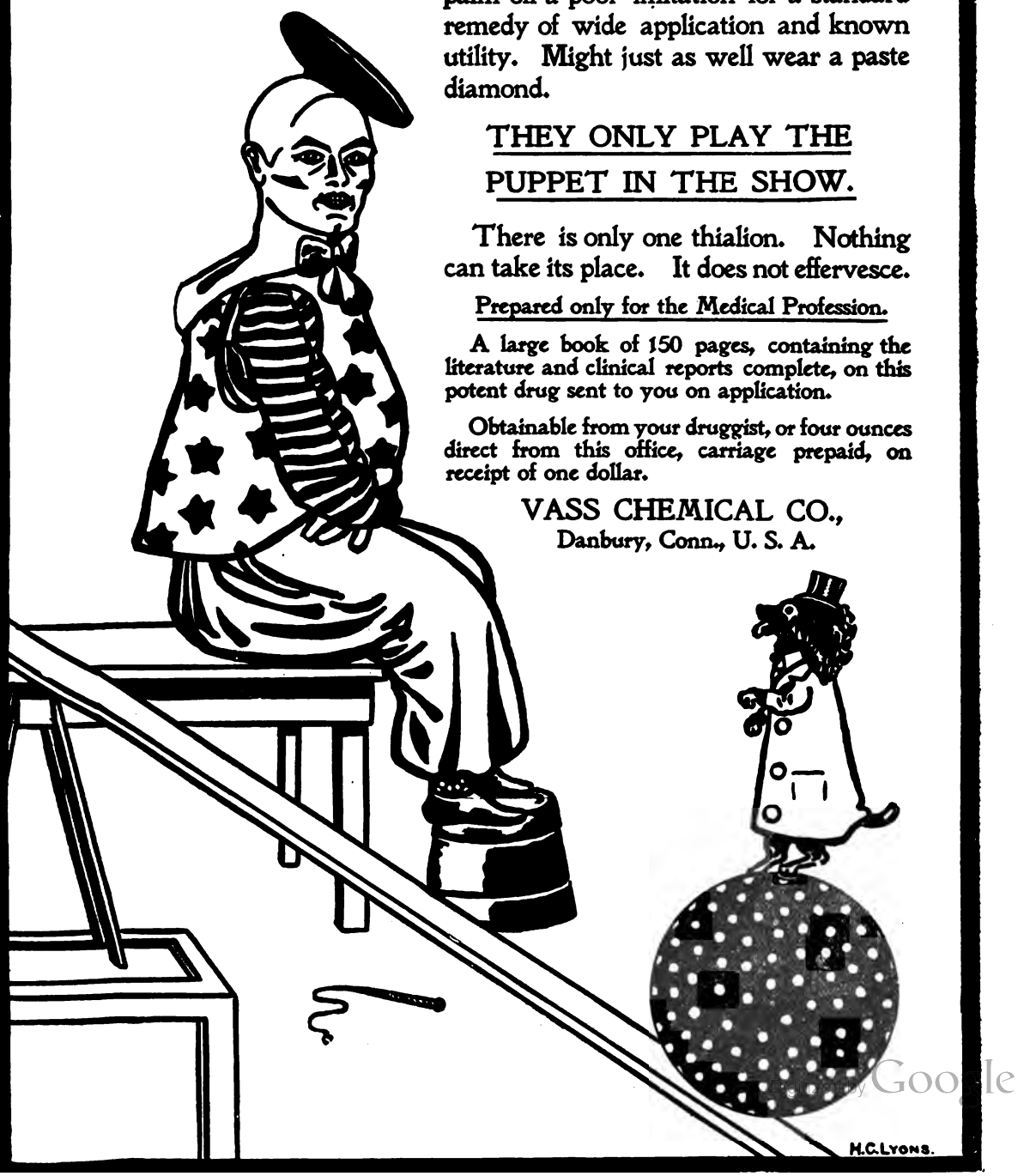

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THE MEDICAL NEWS.

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ORIGINAL ARTICLES.

FUNCTIONAL AND ORGANIC HEART MURMURS IN INFANCY AND IN CHILDHOOD.[1]

BY ABRAHAM JACOBI, M.D., LL.D.,
OF NEW YORK;
PRESIDENT OF THE AMERICAN CLIMATOLOGICAL ASSOCIATION.

I ASK your permission to utilize the time afforded me for a presidential address by discussing a few points connected with cardiac murmurs, both functional and organic, mainly in infancy and in childhood. In the last volume of the Transactions of our Association, I published a paper on functional cardiac murmurs. I avail myself of this opportunity to again return to the same subject with a single contribution which I think of some importance. On that occasion I quoted a remark of mine of the year 1888 (*Brooklyn Medical Journal*, March) which reads: "The heart (of the infant) exhibits functional murmurs but rarely. Whenever there are murmurs present in the infant, it is safe to attribute them to organic disease rather than to mere functional disorder." The last few years have produced many contributions to the same subject, particularly in Germany. Two authors of eminence, Hochsinger and Soltmann, deny absolutely the occurrence in the first three years of life of functional murmurs. The persistent discussion of these statements, both in societies and in the journals, have, however, brought out a few instances of a murmur in the very young that may well be taken as functional. One of them I quoted last year. After all, it appears undeniable that even a single case contradicting the categoric dicta of the two eminent workers is capable of shedding light on a difficult topic.

Helen D. (colored), thirteen months of age, rachitic, was admitted to the "Jacobi Ward" of Roosevelt Hospital March 19th, with pneumonia and some pus cells in the urine. The last physical signs of pneumonia disappeared about April 6th; on the 10th there was some vaginal discharge but no gonococci were found. It disappeared after a few days. All this time there were marked remissions in her high temperature, the thermometer showing 105° F. and more in the evening, and less than 101° F., down to 99° F., in the morning. Plasmodia were not found in spite of renewed examinations which were made before quinine was administered. Large doses of the latter were then given daily up to 10 grains a day, also subcutaneous injections during the remission. Careful search for pus everywhere was negative. On April 10th a systolic murmur was heard which gradually increased and fortified the diagnosis of septico-pyeluria. Then, while quinine was continued, Credé's ointment, 1 gram daily, was used; within a day the temperature fell to 102° F. in place of 105° F., and the child appeared comfortable for some days, smiled and took food. At no time could pus be discovered. There was no dulness, and respiration had become normal with absence of any physical changes or symptoms. The murmurs grew less and could not be found on April 17th, nor afterward at any time. About the same time the temperature rose again and exhibited the same steep curves of previous weeks. The infant was evidently sinking and could not be examined closely during the last six days of her life. She died on the 23d. The autopsy revealed a recent suppurative pleurisy of the right side, surely a few days old only, and absolutely no other abscess or ulceration. The cause of the pyemic fever is unknown to me. But the subject of greatest interest to me was the heart. Here was an infant with sepsis, with a marked systolic murmur that took a few days to become quite loud; then it gradually diminished and was absolutely lost during the last six days of life. A close examination of the heart by the pathologist of Roosevelt Hospital, one of the gentlemen connected with the Pathological Department of Columbia University, revealed positively nothing abnormal in the heart. So here was a functional mitral murmur in a baby of thirteen months of age.

Neither it nor an organic murmur should, however, be mistaken for extracardial murmurs. I have seen that error committed. Extracardial murmurs in children, mostly systolic, are very infrequent in infants below two years, because at that early time the heart is larger in proportion and less covered by the lungs. When these grow, however, and in the presence of a tumor or of adhesions between the pleura and the pericardium, the murmur appears, soft or grating; is mostly heard anteriorly only; is arhythmic, not synchronous with the contraction of the heart; is strong on deep inspiration; disappears when there is no breathing, and is less audible in a recumbent than in an erect posture.

Hochsinger terms extracardial those murmurs which are now and then observed in grave anemia, mainly leucocythemia, and not infrequently with rachitic deformities of the heart. It will not do, however, to be overconsistent. In grave anemia we might well think of the myocardial structure-changes which result in irregular contraction; and in rachitis the more extensive contact of the heart with the ill-shaped chest an-

[1] President's Address.

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noys the heart-muscle sufficiently to impede symmetrical contraction.

If murmurs mean organic valvular disease in most cases, the latter does not necessitate the presence of a murmur. Mitral stenosis need have no murmurs at all. Osler long ago emphasized the fact that ulcerous endocarditis may not exhibit any murmur, and that the diagnosis of the condition is thereby rendered difficult. I have seen proofs of that statement in autopsies. When the deposits take place at the insertion and not at the edge of the valves, there is, or need be, no murmur. Two months ago I lost a child two years of age who was under close observation six weeks for pneumonia, endocarditis, and, finally, meningitis of which he died. This endocarditis was diagnosticated by the usual symptoms and was marked by a loud systolic mitral murmur. The patient was in a fair way to recover from his endocarditis (pneumonia having disappeared before the heart was affected), when meningitis developed. During that recovery the murmur became gradually less from day to day until it disappeared entirely. There was certainly an apparently complete recovery from endocarditis. The specimen which I shall exhibit to you before the end of the session shows still a slight thickening of the edge of the mitral valve and isolated small thickenings at a little distance. But for these findings the murmur might have been classed as functional; as it is, there is merely a proof that a partial, probably also a complete, recovery from endocarditis may take place. That happens, perhaps, more frequently in the very young than in advanced years. For although endocarditis is very frequent at an early age, valvular lesions are mostly—but mostly only—milder than in the adult, and compensation is easier. Moreover, murmurs are not so apt to be loud because the vessels are relatively wide compared with the heart. At about puberty the relation of the width of the blood-vessels to the volume of the heart is 61:290, while in the newly-born it is 20:25, *viz.*, almost identical.

What I said of the possibility of a bona fide recovery from endocarditis is mainly due to the changes I alluded to last year. I spoke of Bouchut's proliferating endocarditis *(endocardite végétante)*, called valvular nodes by Albini, blood-cysts by Luschka and Parrot and lately (1898) blood-nodules by Berti. They are small elevations, principally on the lower side of the valves, and give rise to a systolic mitral murmur in the newly-born, which may either last a lifetime or disappear in time with the growth of the organ, or with increasing absorption, or with progressing compensation.

Endocarditis is not always easily diagnosticated. That there may be valvular lesions without a murmur, I think I have shown. However, endocarditis does not necessarily mean valvular lesion, nor does it necessarily imply dilatation and accentuated pulmonary sound; nor is it followed, at least for years, by obstructions and disturbance of compensation, for in the very young the right ventricle is more muscular, expels its contents more readily into the blood-vessels, which are still disproportionately wide, and thus protects the auricles against dilatation. But what endocarditis does accomplish in many innocent-looking cases is through its complication with myocarditis.

Most murmurs mean organic lesions either in the valves or in the myocardium. In that respect all ages are alike. But there are possibilities in the infant which modify the explanation of the usual observations; and there are conditions in which the diagnosis may be very difficult. For instance, besides the frequent mitral systolic murmurs that result from infectious diseases, most commonly from rheumatic invasion, there are those that originate in contraction, or more or less obliteration of the mitral orifice, or adhesion of the valve. These conditions are not always complicated. There is, for instance, the case of Gerhardt, that of a baby who died at the age of four months. Still, they are very rare, very much more so than in the pulmonary artery, or even in the aorta where some have been noticed and ascribed to syphilis.

In persistence of the ductus arteriosus Botalli there is a loud systolic murmur over the sternal end of the second left intercostal space. It extends upward into the vessels of the neck mainly of the left side and is audible posteriorly in the left interscapular space. It is connected with a characteristic dulness nearly oblong, extending along the left margin of the sternum to the clavicle. Within a few months lately I have seen two cases in which the diagnosis was obvious. But uncertainty may arise when there are complications with valvular anomalies (either rudimentary development or excrescences) or with interauricular communications, or with stenosis or atresia of the aorta or of the pulmonary artery, or with a narrow bicuspid orifice. These complications are more dangerous than the patency of the channel itself, because the number and degree of accompanying conditions, such as extensive murmurs, cyanosis, and hypertrophy of the right ventricle, depend on them. When not so complicated, patency of the duct is compatible with a fairly long life.

In congenital stenosis of the pulmonary artery there is in the sternal part of the second left intercostal space a systolic murmur which is not transmitted into the carotid, except when there is a complication with defects of the ventricular septum. It may be mentioned that the second pulmonary sound is feeble, that there is cyanosis with clubbed fingers and hypertrophy and dilatation of the right ventricle. These are not present when, instead of stenosis, there is a complete atresia of the artery. In that case the right heart is small or rudimentary.

Absence of the ventricle I have never seen or diagnosticated unless complicated with stenosis of the pulmonary artery. In these latter cases there is a loud murmur over the sternum which extends far down and upward into the vessels of

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the neck. The secondary pulmonary sound is accentuated only when there is a hypertrophy of the right ventricle; when both ventricles are hypertrophied the second aortic and pulmonary sounds are of equal strength. The frequent statements in the books that pulmonary stenosis with defect of the septum is characterized by hypertrophy of the heart, I cannot verify. On the contrary, the absence of much hypertrophy I find to be characteristic of that condition; it has led me to a correct diagnosis which I could verify by the autopsy. The record of one such case may be found in the *Archives of Pediatrics* of a number of years ago.

Another class of cyanotic cases owes its origin to an arrest of development of the common arterial trunk which did not separate into the aorta and pulmonary artery. In these cases, contrary to many statements, I found but little hypertrophy or dilatation, sometimes none at all. The loud murmur is heard over the sternum a little to the right and to the left, about the insertion of the second and third ribs; it is very audible posteriorly, but much less than anteriorly.

Very loud murmurs, audible at a distance, without the ear touching the chest, I have heard more in adults than in children, without having an opportunity to make an autopsy. They are always systolic and are mostly attributed to hypertrophy and believed to be muscular only. In a few cases, however, I am certain that no increase of percussion dulness or of cardiac impulse corresponded with the loudness of the tone; so I was inclined to believe that the peculiar phenomenon was due to torn and swinging papillary muscles. Not infrequently the general condition of the patient is vastly better than the formidable noise would appear to suggest.

Organic murmurs, when present, are not always audible. They may not be heard at all when the heart-beats increase in number. Then the blood-wave is small and the excursion of the valve short. Diminution of temperature, or a few doses of digitalis, therefore, restore a murmur which was temporarily absent; but under ordinary circumstances also, as I said before, an organic murmur may disappear for two reasons, one of which is recovery, the other compensation. I think I proved that the disappearance of a murmur, as, for instance, in Case III. and Case IV., described by Starck in *Arch. f. Kind.*, 1900, p. 200, does not prove it to be functional. Nor is there any reason why an endocarditic thickening should not be absorbed as well as those on other tissues.

A few words only on myocardial changes. About middle-age myocardial changes are mainly caused by everything that gives rise to hypertrophy and dilatation. We find mostly a diffuse increase of the intermuscular connective tissue with atrophy of the muscular tisue which first was hypertrophic. The senile heart is very apt to exhibit hypertrophy and dilatation of a peculiar type. There is atheromatous degeneration of the coronary and the minute nutrient arteries. There is consequently an annoyance or destruction of the lymph interstices and channels in and on the myocardium, and of the two large trunks that carry the myocardial lymph to the mediastinal lobes, and, finally, degeneration of the myocardium resulting in either macroscopic, more or less local, thickening or in atrophy. That is why the contraction of the organ is liable to be irregular, and partial, in instalments, as it were, although there be no accompanying sclerotic alteration of the pericardium, or thickening of the valves and of the endocardium.

What we call debility of the heart is a symptom of a great many different conditions. There is a congenital atrophy which is liable to lead to lipomatosis, there are intoxications by infectious diseases, alcohol, syphilis, malaria, and tuberculosis; nutritive disorders, such as rachitis and scrofula, overexertion and premature schooling with constipation, and subacute and chronic nephritis, one of the most frequent and most frequently overlooked diseases of early infancy. I mention only those causes of myocardial acute, subacute or chronic changes that are most common in the young, but should emphasize that what is called debility or failure at any age is in all the cases so occasioned not functional, but the result of organic lesions. Two most interesting cases of heart debility I found connected with purpura. Only in one could I obtain an autopsy. There were numerous blood-points in the walls of both ventricles and a livid appearance of the muscle.

In infants and children myocarditis is mostly parenchymatous.

Most intense and persistent myocardial changes are found after influenza and after diphtheria; they are most injurious at about puberty—fortunately, however, diphtheria, is not so frequent at that age—when the heart is no longer disproportionately strong and large, than in earlier years. Schmalz reports 81 cases of chronic cardiac disorder originating in 500 cases of diphtheria. In some seasons—for instance, in the severe New York epidemics of 1870 and 1874—the proportion was much larger. In many arhythmia and murmurs last for life; they may be modified by a protracted recumbent position during convalescence, and by resorting to absolute rest extending over weeks whenever increased cardiac disturbance is observed. The systolic murmur is *extensive*, but mostly heard in the mitral and pulmonary regions, at the same time that now and then there is an increase of transverse dulness. But more characteristic than the extensive murmur, which often by the absence of localization facilitates the differential diagnosis, is the irregularity of the contraction of the heart. The condition of the heart-muscle changed by myocarditis (parenchymatous or hyperplastic, it makes no difference) is not uniform. Neither a kidney nor the myocardium is equally affected and changed in all its parts. That is why arhythmia is so frequent. No matter how many causes, either in the heart or nerves

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or distant organs, are charged with causing it, the most frequent cause is chronic myocarditis.

A peculiar form of arhythmia mostly complicated with a murmur is the duplication of one of the heart-sounds. It is not always easy to distinguish which of the sounds it is that is so affected. Now and then we hear a dactylus—uu, in other cases or at other times an anapestus uu—. The cause of this gallop-rhythm must be either in the myocardium or in the valves. From careful and long observation of individual cases, and from the improvement that rest alone is able to work on the case in regard to the annoying symptoms, there is no doubt in my mind that it is the former. The first sound appears to slit up when the two atrioventricular valves are not working simultaneously, the second, when the aortic and the pulmonary valves do not act together. This lack of synchronicity, however, depends on the lack of muscular myocardial coaptation. A similar symptom may be had in mitral stenosis, particularly after a slight exertion, and in hypertrophy and dilatation of the right ventricle when the valves close in different times.

The gallop-rhythm is a suspicious symptom inasmuch as it proves the exhaustibility of the heart-muscle. I kept the children in bed for months, and a single exertion sufficed to renew or to increase the duplication. Thus, a long rest is required and attention to general hygiene, food in small and digestible quantities, and regulation of the bowels. In most cases iodide of potassium is indicated and strychnine or some other cardiac stimulant. Strychnine should not be feared, because it should not be forgotten that parts of the heart are probably in an intact or nearly intact condition, and permit of stimulation. If that be done carefully, the galloping rhythm ceases to be such a bad omen as some declare it to be.

Clara R. was discharged June 8, 1899, after having been in the hospital for chorea. This returned about the end of January, 1900, she then had pneumonia, from which she recovered. She was readmitted March 3, 1900, with chorea mostly of the right upper extremity, very irregular heart-action, dulness reaching more than one centimeter beyond the right margin of the sternum, while in an erect position, and marked duplication of the second sound at the apex and to the right of it. The impulse was feeble. Radial pulse small. Muscular power generally feeble, with costiveness and at one time incontinence of urine resulting therefrom. The latter was almost suddenly relieved by increasing the doses of $^1/_{100}$ of a grain of strychnine to $^1/_{50}$ of a grain, three times a day. When her general strength improved and her color brightened, the duplication disappeared gradually; but whenever her condition appeared worse, under the influence of a low barometer, for instance, it would reappear. She was kept in bed and was discharged April 16th without her duplication, and with her heart not reaching beyond the median line of the sternum when in a sitting posture.

This Association fills a place peculiarly its own. Its aims and objects appear sympathetic to every physician who is more than merely an anatomist or pathologist, and better than a mere prescription-writer. The class of philosophic doctors whom Hippocrates calls "godlike" because he says they strive to learn the connection of things, belongs here. The climatic and atmospheric influences of Nature on man, mainly as they affect the human creature through the respiratory and circulatory organs, is the object of your study. That is why there is, and should be, a peculiar incentive to become a member and why the applications for admission were always very numerous, and the roll of membership has become large. We have been very fortunate in not losing by death any of our members, except Dr. J. C. Mulhall of St. Louis, whose loss we have to deplore.

The danger of swelling the ranks too rapidly is very great indeed. This year, however, we are singularly fortunate in the character and standing of our candidates. In connection with this matter, it is hardly necessary to point to and to emphasize the established policy of the Association to admit only men whose position is established or who through at least a few publications connected with our study have proved their right to apply.

Feeling as I do that contributions should be spontaneous unless there be a preparation for a set discussion, I felt a few months ago that there might not be a sufficiency of material for your meetings. I was happily mistaken, for there is ample work for you. The American democratic spirit has prevailed again.

PERFORATING DUODENAL ULCERS.

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(Continued from p. 696.)

THE following list embraces all the reported cases of perforation of the duodenum that have undergone operation up to April, 1900, and have been carefully investigated and epitomized by Dr. E. M. Foote, to whom I am much indebted for this and other help in the preparation of this article.

Case 1.—M., aged thirty-five years; a heavy drinker; no history of indigestion. For a week or so loss of appetite and indefinite epigastric pain; then sudden acute pain while at work, followed by vomiting. Two days later brought to hospital in collapse. Abdomen distended, dulness in right flank; pulse rapid and feeble; temperature 98.8° F. Laparotomy at end of two days. Acute peritonitis—cause not discovered. Death in a few hours. *Autopsy:* Perforation anterior wall of duodenum close to pylorus.[1]

Case 2.—M, aged thirty-one years. Acute attack like intestinal obstruction. Diagnosis, ap-

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pendicitis and general peritonitis. Operation third day. Appendix normal; general peritonitis; perforation not found. Death in a few hours.[2]

Case 3.—M., aged twenty-nine years; history of abdominal colic. While in usual good health he was seized at 5 P. M. with sudden pain, followed by bilious vomiting. Some lumps of feces and gas passed that evening, but there was absolute constipation thereafter. Next day a purgative only increased the vomiting and pain. Entered hospital on third day, with fecaloid vomiting. On fourth day great distention, tenderness and pain at its maximum in right hypochondrium; pulse 120, small; dulness in both flanks. Diagnosis, perforative peritonitis. Operation in about ninety hours. General peritonitis. The hand thrust under the liver broke into a cavity containing two quarts of serous liquid. The intestine was searched in vain for mechanical obstruction, and on account of weakness of patient, the operation was terminated. Death same evening. *Autopsy:* Perforation "near the end of the second portion of the duodenum, externally."[3]

Case 4.—M., aged twenty-eight years, always well. While drinking tea, had a violent pain in the left side of the abdomen. Next day, a tumor to the right umbilicus; sour vomit, later becoming fecal; tympanites; constipation; no blood. Third day, temperature normal, pulse about 130. Operation in eighty hours (about). Incision to left of umbilicus gave vent to gas and pus; intestine sound; greatly distended; incision of intestine; suture of collapse; drainage. Death in seven hours. *Autopsy:* Perforation in anterior wall of duodenum purulent peritonitis.[4]

Case 5.—M., aged forty-one years, of good previous health except slight indigestion. One year before perforation, had an attack of abdominal pain with constipation. While at work was seized with violent pain; gastric vomiting, later becoming fecal; no blood; absolute constipation. In tympanitic stage, when first seen by reporter; respiration thoracic; pulse 120; temperature 99.2° F. Diagnosis, septic peritonitis. Operation, May, 1891. Usual incision; cavity searched; no cause for suppurative peritonitis found; irrigated; drained. Death in ten hours. *Autopsy:* Perforation in posterior wall of duodenum, 1 inch below pylorus, freely communicating into peritoneal cavity when intestines were lifted.[5]

Case 6.—F., aged twenty years; servant; of constipated habit; otherwise health good. Bowels moved by salts two days before the attack. A sudden attack of pain in the right hypochondrium, passing then to left side, and afterward becoming general. Vomiting of sour fluid began twelve hours after the attack of pain and continued. There was tympanites without loss of hepatic dulness.. Diagnosis of general peritonitis, cause unknown. Operation in twenty-four hours. A median incision below the umbilicus allowed the escape of inoffensive fluid. A second incision above the umbilicus disclosed the perforation ¼ of an inch in diameter, in the posterior aspect of the duodenum, close to the pylorus. Milk was escaping through it. The ulcer was excised and sutured, the abdomen flushed. Death in six hours. General peritonitis.[6]

Case 7.—M., aged twenty-one years; always good health. Sudden pain in the lower abdomen, followed by vomiting and collapse. After eighteen hours laparotomy gave exit to much brownish, acid, non-feculent fluid. There was adhesive peritonitis. The cause of peritonitis was not found. Death in a few hours. *Autopsy:* A perforation in the anterior wall of the duodenum, about 5 inches from the pylorus, and about 5 inches in diameter; a second non-perforating ulcer of the posterior duodenal wall.[7]

Case 8.—M., aged fifty-six years; brought to the hospital in a condition of tympanites, and having a right inguinal hernia. Laparotomy. The hernia was explored and found to be in good condition, and the incision was prolonged upward seven inches giving vent to purulent and fecal fluid. No cause for the peritonitis was found about the cecum or elsewhere. Death in a few hours. *Autopsy:* On the anterior surface of the duodenum, 0.5 inch from the pylorus, was a perforated ulcer, 0.5 by 0.7 inch. It could easily have been sutured.[8]

Case 9.—M., aged twenty-eight years; of good health until two months before perforation, did not feel quite himself, but no localized symptoms. While ascending an omnibus, felt a sudden pain in the abdomen; nausea and vomiting after an emetic had been given; constipation for four days, then a little fectal matter and flatus, after an enema. Entered hospital on seventh day; abdomen distended; general tenderness; respiration 28; thoracic; pulse 104; temperature 99.8° F. Questioned with reference to duodenal ulcer; could not localize first pain; never any blood by mouth or in stools; only slight history of indigestion. No evidence of trouble in upper part of abdomen. Diagnosis, septic peritonitis with pus in pelvis. Operation in one hundred and fifty hours (about). Subumbilical incision; two pints of pus from pelvis; appendix, cecum and small intestine sound; higher search abandoned as there was less peritonitis in that direction; irrigation, drainage, suture. Death in fifty-four hours. *Autopsy:* Septic peritonitis in pelvis, and also about duodenum, these areas being separated by a middle zone, relatively free from peritonitis; perforation, 0.5 inch in diameter, 0.7 inch from the pylorus, in the upper wall of the duodenum.[9]

Case 10.—M., aged sixty-one years, with a long history of gastric ulcer, with epigastric pain and vomiting, never of blood. Sudden pain in right hypochondrium; collapse. Diagnosis, perforation of gastric ulcer. Operation in four hours, fifteen minutes. Perforation in duodenum, anterior wall, 0.7 inch from pylorus, sutured; thorough washing, drainage. Death in six days. *Autopsy:* Suture tight; a second ulcer in the back of the duodenum, non-perforating; purulent fluid behind liver and in pelvis.[10]

Case 11.—M., aged twenty-eight years; good

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health. One hour after a movement of the bowels, while lifting barrel from a dray, felt a sudden pain across the abdomen like a knife; vomiting immediately began and continued; third day fecal vomiting; pain especially on right side; pulse rapid, temperature 100.6° F., respiration rapid; cold sweat. Diagnosis, intestinal obstruction. Operation in sixty-two hours. Subumbilical incision gave vent to a large amount of sero-pus with a fecal odor; cecum, appendix, hernial openings, and intestine in pelvis examined; incision prolonged upward; perforation as "big as a florin" in anterior wall of duodenum; 1 inch from pylorus, pared and closed with six or eight Lembert stitches. Area covered by omentum; irrigation; drainage in pelvis. Death in eight hours. No autopsy.[11]

Case 12.—F., aged twenty-seven years; for a fortnight had epigastric pain, and constipation for seven or eight days; treated for indigestion. Sudden pain in epigastrium and collapse; vomiting frequently repeated. Thirty hours later; slight tympanites; abdomen uniformly tender; pain most marked in epigastrium; vomiting; respiration rapid and irregular; pulse 120; temperature 100.6° F. Diagnosis, general peritonitis from mechanical obstruction. Operation in thirty hours (about). Subumbilical incision gave vent to fluid and fibrin; intestinal coils congested; no lesion found; incision prolonged upward; gas noticed near gall-bladder; perforation of duodenum 0.7 inch from pylorus; surrounding induration incised; suture; irrigation; sponging; no drainage. Nothing by mouth for seventeen days. Recovery. Two months later symptoms of obstruction; operation on third day; adhesions which obstructed the ileum a short distance above the cecum freed. Death from perforation of the wall of the ileum just above the obstruction. The suture of the duodenum was smooth and thin.[12]

Case 13.—M., aged thirty-five years, of alcoholic habit. Upon going to work was attacked by sudden abdominal pain and vomiting; pain and nausea continued, although vomiting ceased. Thirty hours later the patient lay with hollow eyes, alternately extending and drawing up his legs as paroxysms of pain came on. Nothing had passed by anus. There was tympanites except for dulness in the right iliac region, where pressure was painful. No tumor could be made out; temperature 37.9° C. (100° F.), pulse 104 and small. Operation by Brissaud, fifty-one hours after the attack, December 14, 1893. An incision was made over the appendix, giving vent to a great quantity of fecal matter. The appendix was not seen; drainage. Death in a few hours. *Autopsy:* General peritonitis, and a fusiform collection of pus from the liver to the right iliac region. There was perforation of an ulcer in the anterior wall of the duodenum, just below the pylorus.[13]

Case 14.—M.; after a debauch the patient was attacked by a sharp pain in the right side of the abdomen. Forty-eight hours later there was general tympanites, dulness over a tumor in the right iliac region and collapse. Operation in fifty-three hours as for appendicitis. From the incision pus and milky fluid escaped in large quantities. Irrigation and drainage. Death. *Autopsy:* Perforated duodenal ulcer, the sac about the cecum containing much of the milk and food which had been taken during the illness.[14]

Case 15.—M., aged twenty years; slight indigestion. While at the theater a sudden attack of severe pain in the epigastrium with tenderness; no vomiting; passage of flatus; slight tympanites; temperature 96° F., pulse 100. On the second day greenish vomiting, becoming fecaloid; obstipation; rapidly increasing tympanites; tenderness in the cecal region. Diagnosis of appendicitis. Operation in about sixty hours. Gas without odor, thin, purulent fluid, and lymph in peritoneal cavity. Perforation not found; intestines washed; abdomen closed. Death in twenty-four hours. Perforation anterior aspect of first portion of duodenum.[15]

Case 16.—M., aged twenty-three years; an attack of sudden pain, vomiting, and obstipation three years previous. An acute attack of pain and vomiting lasting five days. There were two movements of the bowels in this period. When seen on the sixth day, there was marked tympanites and a very rapid pulse, but not much tenderness or pain in the cecal region. Diagnosis of appendicitis. An incision made about one hundred and five hours after attack allowed odorless gas and thin pus to escape. The intestinal coils were covered with lymph and greatly distended. An incision into the jejunum permitted several pints of fluid to escape. Perforation not found. Abdomen washed and drained. Death in twenty-two hours. *Autopsy:* There was a small perforation of the anterior wall of the duodenum, one half inch below the pylorus. At the same distance, there was in the posterior wall the scar of a healed ulcer.[16]

Case 17.—M., aged twenty-eight years, hard drinker. Sudden abdominal pain accompanied by vomiting. Two days later admitted to hospital with general abdominal distention and tenderness, but no loss of liver dulness; temperature 103° F., respiration 20, pulse 120. On the third day a liberal median incision revealed a general peritonitis, with a small amount of fluid; cause not found. Rapid irrigation and drainage. Death three days after operation. *Autopsy:* Sharply defined ulcer in the third part of the duodenum, in its posterior wall. The ulcer had for its base the pancreas, whose tissues were necrotic and infiltrated with pus. The suppuration had extended as far as the jejunum, and had there entered the general peritoneal cavity.[17]

Case 18.—M., aged thirty-five years, a hard drinker, with a history of a similar attack thirteen years previous. For a few days there was a severe abdominal pain accompanied by vomiting. Was admitted to the hospital with very great general tenderness, no distention, and a temperature of 102° F. The symptoms improved until the fourth day after admission, and then signs of a

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rapidly spreading peritonitis were manifest. Diagnosis of appendicitis. Incision made on the fourth day over the appendix showed that organ to be normal. There was a general peritonitis and a large quantity of odorless fluid in the abdomen. Drainage. Death in a few hours. *Autopsy:* Perforation in the superior wall of the first portion of the duodenum just beyond the pylorus. The gut was adherent to the liver by recent fibrin. There was also the scar of an old healed ulcer.[18]

Case 19.—M., aged fifty-six years; long history of gastritis and diarrhea and sometimes of blood. Acute attack of pain, four hours after dinner; constant vomiting; collapse. The usual lavage failed to give relief and the water did not return readily. Morphine administered; passage of gas per anum. The next day the symptoms disappeared, then returned with vigor. Stool after enema. The second day there was again a remission and again a relapse toward night. Dulness and pain most marked in the right iliac fossa; pulse 112, temperature 38.2° C. (100.7° F.). The third day still iliac tumefaction; marked sepsis; pulse 160. Operation sixty-six hours after attack. Incision over appendix, which was thought to be the origin of the disease, allowed the escape of three pints of reddish purulent fluid with fibrin masses. The peritonitis appeared limited, and it was decided best not to break up the adhesions to find the perforation. Douche and drainage. Death nine hours after operation. *Autopsy:* An ulcer just below the pylorus occupied two-thirds of the circumference of the duodenum, the anterior wall being not involved. The perforation was on the postero-external surface.[19]

Case 20.—M., aged thirty-three years; no previous gastric trouble. Sudden colicky pain in right hypochondrium; collapse; no defecation nor passage of wind. Following day, tympanites; liver dulness absent; temperature 100° F., pulse 122, respiration 38. Operation in twenty-five hours. Incision median line; purulo-fibrinous peritonitis; gas and fluid from duodenal region; perforation sutured by two rows of stitches; intestines cleaned by moist gauze; no drainage. Recovery after bronchitis; primary union of wound. Patient seen four years later in good health.[20]

Case 21.—M., aged thirty-five years, a hard drinker. Sudden severe abdominal pain, without vomiting. Admitted to the hospital eight hours later with a tense abdominal wall, and tenderness over the gall-bladder. The pulse was 90, but there was no fever. Later the temperature rose, distention with obliteration of the liver dulness developed. Diagnosis, appendicitis. Operation in twenty hours. Incision over appendix, which was normal. A well-marked general peritonitis was present, but the patient's condition prevented further search. Death in twenty-four hours. *Autopsy:* Perforation of the duodenum in the posterior wall 1¼ inches from the pylorus, and a second non-perforating ulcer lower down.[21]

Case 22.—M., aged fifty-two years; attack of acute pain in epigastrium with obstipation and tympanites six years previous. Recovery in six weeks. More or less pain since. Acute attack of severe pain about pylorus, later extending downward and backward. Absolute obstipation; tympanites slight on second day and increasing; vomiting on third day of moderate character; temperature 100° to 100.5° F. Diagnosis of appendicitis. Operation on fourth day. Intestines distended and covered with lymph; no pus. Perforation of duodenum into general peritoneal cavity found and closed. Cavity douched with hot water; gauze drain. Thirst and brownish vomiting; rapidly rising temperature. Death on third day after operation. No autopsy.[22]

Case 23.—M.: sudden epigastric pain while at work, followed by vomiting, tympanites, and loss of liver dulness. Operation in about thirty hours. Perforation in anterior wall of first portion found and sutured. Gas and yellowish fluid in peritoneal cavity. Flushing with hot water; drainage for twenty-four hours. During convalescence return of symptoms necessitated a second laparotomy. Only adhesions of liver to diaphragm. A needle thrust through the eighth intercostal space into these drew a drop of pus. A mural abscess formed later which probably caused the above recurrence of symptoms. Recovery.[23]

Case 24.—M., aged fifty years, who for ten or fifteen years had pain after meals, with vomiting and bloody stools. Last hemorrhage seven months before entrance to hospital. Emaciated and anemic on entrance; stools black; diagnosis of ulcus ventriculi. Two days later sudden pain in right hypochondrium, with retracted abdomen; temperature 100° F., pulse-rate normal. The signs of peritonitis with feelings of distention increasing, laparotomy was performed twelve hours after the attack. A long incision made above the umbilicus with cross-cut to the left and right; stomach and duodenum examined and fluid like coffee-grounds squeezed from its posterior region by pressure, but no perforation could be made out. Duodenum, stomach and colon were sutured together to protect the general peritoneal cavity. Cavity irrigated and wiped and drained at epigastrium and through pelvis. Recovery. Six months later in good condition, as far as duodenal ulcer went. Still had chronic gastritis. Death in eight months from operation for suppurative peritonitis. *Autopsy:* A new perforation in the posterior wall at the beginning of the second portion of the duodenum.[24]

Case 25.—M., aged twenty-four years, with no gastric trouble. After a large dinner he felt indisposed for a few minutes. The next morning he rose at six o'clock in usual good health and ate his customary breakfast. At the last mouthful of a glass of white wine, he felt a sudden most severe pain and lay down in bed. There was vomiting of food, and afterward incessant vomiting of bile. He described the pain as "not like a general colic, but always in one point, here,"

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indicating a spot on the left, midway between the umbilicus and ensiform. A physician diagnosed volvulus, and tried by enemata and massage to relieve the pain. In five hours vomiting ceased and the pain subsided somewhat and was referred to the lower abdomen. No fecal matter nor gas passed the anus. There was no tympanites nor difficulty in passing water. Sixteen hours after the attack he was admitted to the hospital. The abdomen was retracted and board-like, the pain was less and vomiting had ceased. There was costal respiration and the expression of the face indicated severe abdominal trouble, the nose pinched, the eyes sunken, the hands clammy and the patient in a half stupor. Diagnosis was throught to lie between appendicitis and duodenal perforation. Nineteen hours after the attack an incision was made in the median line from the pubis to above the umbilicus. The abdomen contained non-feculent fluid, and there were light adhesions on the intestinal coils. Appendix normal; no intestinal lesion; pelvis normal. Incision prolonged upward and stomach searched; gas found escaping from under liver, and perforation near pylorus on anterior surface of duodenum sutured. Abdomen wiped and drained from site of duodenum. Several saline injections amounting to 4200 c.c. in all. Death in twenty hours from peritonitis; suture tight.[25]

Case 26.—M., aged twenty-six years; health perfect, never any gastric symptoms. Two hours after his usual light breakfast, while making a slight effort to open a sack, the patient experienced an intense pain in the left side of his abdomen. He was taken almost at once to a hospital. Diagnosis of appendicitis; treatment by ice and opium. Following day a feeble pulse, without fever; abdomen distending; tenderness in left iliac fossa. On second day vomiting set in becoming bloody and bilious. About fifty-six hours after the attack, Sebileau made an incision as for appendicitis, permitting the escape of non-feculent fluid, like bouillon. The appendix was normal. The patient was already collapsed, and nothing further was done, except to drain with gauze and give a saline injection. Death after incessant vomiting in thirty hours. *Autopsy:* Abdomen contained fluid. There was general peritonitis; perforation in the anterior wall of the duodenum 1 cm. from the pylorus.[26]

Case 27.—M.; an attack of sudden pain like lead colic. Incision from the ensiform downward. There was food under the liver, and a perforation was found in the first part of the duodenum. Suture. Death in twelve hours.[27]

Case 28.—M., policeman, of alcoholic habit and history of gastric attack. While on duty the patient had a sudden attack of pain which made him writhe in agony. His bowels had moved a short time before. When seen soon after the abdomen was retracted, as hard as a board, excessively tender, especially under the ribs and in the right flank. Diagnosis of hepatic colic. Compresses were applied and morphine administered. The following day he felt better. An injection resulted in a large stool. Milk and vichy were administered. There was no fever and not much pain, but the abdomen was still retracted. Thirty hours after the attack vomiting set in, soon becoming bilious. The abdomen swelled and the patient was taken to a hospital. Diagnosis, appendicitis, intestinal obstruction or volvulus. Abdomen opened forty-eight hours after the attack. Nothing but general peritonitis discovered. Dieulafoy, operator. Death in one hour. *Autopsy:* Perforation of the duodenum in the anterior wall just below the pylorus.[28]

Case 29.—F., aged twenty-five years, servant, giving history of gastric trouble with vomiting, but never of blood. An increase of gastric pain, with general tenderness and abdominal swelling. Was followed four days later by marked distention. Palpation showed the greatest tenderness to be in the cecal region. There was no fever. A needle thrust into the right iliac fossa brought out gas and an odorless fluid, containing flakes of fibrin. An incision was made over the appendix which was congested. There was general peritonitis. Death four days after the operation. *Autopsy:* Pus in the pelvis and about duodenum, in the lower wall of which close to the pylorus there was a perforated ulcer. A second ulcer was situated in the posterior wall.[29]

Case 30.—F., aged thirty-four years, servant, with a history of gastric troubles for twenty years, with frequent vomiting of blood; last attack one week before admission to the hospital, the vomiting being followed by bloody stools, pulse 84, regular, strong; rectal temperature 98.6° F. Maximum pain midway between ensiform and umbilicus to the right of the median line. Ice-bag on abdomen, nothing but ice by mouth. Next day pain involved the whole right side; was relieved by morphine, but recurred with vomiting, a small pulse of 106, and cold sweat. More morphine was given. Two hours later the pulse was 130, there was tenderness all over the abdomen, and edema in the epigastrium. Diagnosis, gastric ulcer. *Laparotomy two days after admission to the hospital* (thought by the operator to be "at least fifteen hours after perforation") through the left rectus above the umbilicus; gas and fluid escaped; no adhesions; general peritonitis. Perforation at pylorus, thought to be in the lesser curvature, sutured. Abundant irrigation; gauze drainage; 700 c.c. saline injected. Death twenty-four hours after operation. *Autopsy:* Perforation in the superior wall of the duodenum near the pylorus. The suture was perfect.[30]

Case 31.—F., aged fifty-four years, with history of indigestion, no bloody vomiting. A sudden attack of pain and vomiting, not of blood, followed by a large bloody stool and several small ones of a tarry character. Was followed eighteen days later by a second attack. There was tenderness and resistance to the right of the median line above the umbilicus; no fever. Laxatives and enemata relieved the abdomen of gas and fecal matter and the area of resistance became

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a well-defined tumor. Nine days after the last attack an incision was made through the right rectus muscle, and in separating the abdominal wall from the viscera, several small abscesses were opened, and through one of these gas and gastric contents escaped. Perforation readily found and closed. It was at the pylorus and thought to be in the stomach. The gall-bladder was opened and eight stones removed. Most of the omentum was excised. Iodoform-gauze drains were inserted. Death in five weeks. *Autopsy:* Abdominal condition was perfect. Death was due to pulmonary thrombosis infarction from saphenous thrombosis. The sutured ulcer had healed. Two others in the duodenum had not perforated.[31]

Case 32.—M., aged thirty-seven years, shoemaker, with nausea and vomiting and indigestion more or less for years. One morning he awoke feeling perfectly well. On sitting up in bed he was seized by a terrible pain in the umbilicus and to the right side lasting several hours and followed by vomiting. Enemata resulted in several small stools. The next day he was taken twenty-five miles in a sleigh to the hospital, where he arrived with respiration 26, pulse 150, temperature 102.5° F., but free from pain while at rest; tenderness in left iliac fossa, in right hypochondrium, and over right rectus muscle. Stomach and bowels washed out. Diagnosis of duodenal ulcer or appendicitis. Sixty hours after the attack an incision was made in the median line, mostly below the umbilicus. Fluid and gas and fibrin escaping mostly from above, the cut was extended upward and the right rectus was cut across. A perforation which admitted the index finger was found in the anterior superior wall of the duodenum near the pylorus. It was sutured and the cavity washed out with water at a temperature of about 45° C.; wiped out and drained in both loins as well as about duodenum and liver. Compresses wrung out of hot saline were placed in the wound which was left open. The pulse and temperature gradually rose, and in spite of 1150 c.c. of salt solution injected into a vein, the patient died twenty-six hours after operation. *Autopsy:* Fibrous peritonitis without fluid. The suture was firm. There was an abscess between the stomach and colon.[32]

Case 33.—M., aged forty-six years, while lifting a heavy weight, felt something snap and immediately afterward there was intense pain (locality not given), which soon spread to the whole abdomen. Four days later he entered the hospital, not having passed gas or fecal matter per anum. There was no localized pain, but pressure was everywhere painful; no tumor nor fluctuation. The patient had not vomited but had a hiccough; pulse irregular, 110; temperature 99° F. A diagnosis of intestinal obstruction was made and castor oil was given in small doses every hour. The next day there was great prostration, and choreic movements. Five days after the attack the abdomen was opened by a median incision from pubis to ensiform, with a cross-cut through the right rectus muscle. There was a general peritonitis with pus and membranes all over, but especially in the pelvis. At the pylorus on the superior surface was a large perforation which was sewed with difficulty, and the abdomen flushed and closed. Death two hours after the operation.[33]

Case 34.—F., aged thirty years, with a history of indigestion and some epigastric pains. While eating breakfast she was seized with terrible pain in the epigastrium and left the restaurant for a seat in the park close by. She was taken at once to a hospital. In six hours the pain was general and vomiting set in. The following morning she was worse, without stools or passage of gas, and scanty urine. The condition grew rapidly worse, with rapid pulse, subnormal temperature, tympanites and loss of liver dulness. A diagnosis of perforation, probably of the stomach, was followed by operation twenty-eight hours after the attack. Incision above the umbilicus gave escape to gas and a quart of bile and purulent fluid. Stomach and biliary tract normal, and perforation found in the right side of the second portion of the duodenum. Opening sutured and abdomen closed over a rubber drain to duodenum. Death in fourteen hours. *Autopsy:* Perforation a little below and to the right of the opening of the common duct explained why the bile flowed so freely into the abdomen. The closure was perfect. There was a second ulcer a little below the first which had not perforated.[34]

Case 35.—M., aged twenty-three years, a soldier with a history of numerous sprees before he entered the army. During a march he took a cup of coffee, and almost immediately he was overcome by pain in the epigastrium and right hypochondrium, extending into the right shoulder. He was nauseated but did not vomit. There was tenderness and muscular contraction on pressure, especially on the right side. An enema produced a normal dejection. The pain spread over the whole upper part of the abdomen, accompanied by a certain amount of distention, constant vomiting of greenish fluid and a partial disappearance of the liver dulness. Incision above the umbilicus forty-eight hours after the attack. General peritonitis. Intestine overhauled, then liver examined. Bubbling at its base led to the discovery of the duodenal perforation in the postero-superior wall of the first portion of the duodenum. The right rectus was divided to give room for suturing, but the stitches would not hold, and the perforation, of a size to admit the little finger, was walled off from the peritoneal cavity by omentum sutured above and below it. Death in thirty-six hours from general peritonitis. There were no other lesions found at autopsy.[35]

Case 36.—M., aged twenty-two years. Always perfectly healthy. An acute attack of intense pain and vomiting three hours after supper; pain referred to the umbilicus and right side. On the following morning temperature 101° F.,

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pulse 120, respiration 42; moderate tympanites, lower edge of liver dulness two inches above the costal margin, tenderness most marked in the epigastrium, and on the right side of the abdomen. Diagnosis of peritonitis, probably due to appendicitis. Operation fifteen hours after the onset of attack. Incision over appendix. General seropurulent peritonitis. Appendix appeared normal but was excised. A second incision above umbilicus revealed after careful search a ¼ inch opening in the anterior wall of the first portion of the duodenum, close to the hepatic ligament. It was in the center of an indurated area, and on account of its deep situation, no excision was made. Suture and cleansing of the peritoneum with gauze. Closure of abdomen over iodoform-gauze drain. Recovery with severe illness.[36]

Case 37.—M., aged thirty-eight years, with history of attacks of intense pain in the epigastrium three or four hours after meals, without nausea or vomiting. While in usual good health, suffered an attack of violent pain in epigastrium with collapse. He recovered somewhat and then grew gradually worse, with vomiting on the third day; no movement of the bowels for a week before the attack. On the third day, temperature 100° F., pulse 99, respiration 30; face drawn; abdomen distended with gas; dull in flanks; liver dulness absent. Operation about seventy-two hours after onset of acute symptoms. Through an incision in the median line, much gas and thin greenish-yellow purulent fluid escaped with flakes of lymph; appendix normal. A search over the intestine showed the perforation to be in the anterior wall of the duodenum near the pylorus. It was sutured and the abdomen swabbed out. The operation lasted two and a half hours. One quart of saline solution was injected into the basilic vein. Death in eight hours. The peritoneal cavity was dry, except six ounces of pus between the diaphragm and liver. The suture was tight and adhesions had already formed around it.[37]

Case 38.—M., aged thirty years, with a history of dyspepsia. While stooping to draw off his boots, the patient suffered a severe pain in his stomach which stretched him out. The following day an enema was given without result. The abdomen was swollen and painful, the pain being all about the umbilicus, the urine scanty and the pulse 120. About twenty-seven hours after the accident an incision was made in the median line at the umbilicus. The intestinal coils were distended and red. A mass of fecal matter seemed to clog the lumen, and was pushed along for a couple of yards. There was a suspicious yellow fluid in the peritoneal cavity, and pus in the pelvis. The appendix was normal. The abdomen was flushed with boric acid solution and closed. The vomiting ceased, gas and a great quantity of feces passed and the abdomen became soft. Five days later the patient was attacked with dyspnea and double pneumonia developed. Death nine days after the operation. There were numerous pus foci in the abdomen, and a perforation of the duodenum partly shut in by adhesions.[38]

Case 39.—F., aged seventeen years, and fairly healthy; had rarely suffered from indigestion. One week before perforation occurred, there had been indefinite pain in the abdomen, for which she consulted a physician, who feared a beginning attack of appendicitis. About three hours after eating a hearty supper, while walking rapidly she was seized with a violent pain above the umbilicus. Prostration followed, with rapid pulse, subnormal temperature, vomiting and rigid abdominal muscles. Infusion of saline solution and stimulants failing to improve the patient's condition, operation was performed twelve hours after the beginning of the attack. Incision as for appendicitis; appendix and pelvic organs normal, as was the small intestine. In the upper part of the abdomen there was a good deal of lymph and greenish fluid. The perforation of the duodenum was in the anterior wall of its third portion and was about the size of a goose-quill, and surrounded for about an inch by an indurated area. Fluid was freely escaping. Direct sutures would not hold, so a purse-string was inserted and afterward other peritoneal sutures. In this way the opening was firmly closed. Lymph and fluid were wiped away, and the abdomen flushed with a great quantity of hot saline solution. Numerous gauze drains were inserted. Convalescence was slow, as it was a long time before the suppurating tracts, where the drains had lain for a week, had healed, but the patient ultimately recovered completely.[39]

Case 40.—M., aged thirty years; sudden pain in the abdomen followed by shock and taxis symptoms. Operation thirty-six hours later as for appendicitis. Perforation found in first portion of duodenum. No blood nor food in peritoneal cavity. Death in a few hours.[40]

Case 41.—M., aged forty years; seized with pain while at work, followed by shock and toxic symptoms and great tympanites. Operation in twenty hours. Perforation found in first portion of duodenum, no blood nor food having escaped. Death in a few hours.[41]

Case 42.—M., aged thirty-eight years. Supposed pulmonary abscess was opened and a large quantity of pus escaped. Two weeks later an abscess formed in groin and was opened. Later the abdomen was opened for appendicitis and a quart of creamy pus containing streptococci escaped. Death followed. *Autopsy:* Two ulcers near pyloric ring, one in the duodenum, the base of which had healed over, and one in the stomach—perforated. There were numerous pus-pockets in the abdomen, one in the head of the pancreas being the original one apparently.[42]

Case 43.—M., aged twenty-nine years; alcoholic. Three years' morning vomiting. Following a long spree he felt umbilical pain and vomited and had a chill. The next day the abdomen was moderately distended and rigid. Diagnosis of general peritonitis from appendicitis. Operation one to two days after attack. About one

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quart of fluid and fibrin escaped. Appendix amputated. Death in thirty hours. Autopsy revealed perforation in superior anterior surface of duodenum near pylorus.[43]

Case 44.—M., aged thirty years; history of gastric disturbance; no hematemesis. Sudden severe epigastric pain, with chill, fever, and repeated vomiting and great prostration. No blood by mouth or rectum. Gradually increasing distention and tenderness. Four days later, April 30, 1900, he entered the New York Hospital, the abdomen generally swelled, but not presenting any special points of tenderness or dulness; liver dulness absent. Patient had a double hernia, and in the right hernial sac intestine was to be felt; temperature 104° F., pulse 140. Median incision with umbilicus in center. Nothing abnormal found at the internal rings or about the cecum. From a ¼ inch perforation in the antero-superior wall of the duodenum close to the pylorus brandy and water was found escaping. Closed with a double row of sutures; thorough washing of intestines and cavity; saline transfusion of seventy-five ounces, etc. Death in a few hours. Operator, Weir. Case not previously reported.

Case 45.—M., aged twenty-seven years; always healthy but a steady drinker. Had colicky pain for four days, above the umbilicus on the right side. Bowels moved daily and he kept on working. Then sudden severe pain three inches above navel and a little to right of median line; chill; no nausea. Nine hours later, pulse 80, respiration, 20, temperature 101.5° F. March 28, 1899, abdomen opened ten hours after sudden pain, along right semilunar line above and below umbilicus; bile stained fluid escaped; appendix examined as a matter of precaution and found normal. Incision extended upward to ribs. Perforation of duodenum, anterior surface descending portion, large enough to admit No. 26 F. sound, through which bile and intestinal contents were escaping. All organs in vicinity showed signs of irritation and so were washed with saline while opening was closed by pad. Suture of perforation; repeated flushing of peritoneal cavity without evisceration and wiping with dry gauze; gauze drain to ulcer; wound elsewhere closed. No shock. Patient fed by rectum for forty-eight hours. Temperature following day 101° F. and infection of skin stitches which were removed. Recovery otherwise uneventful and perfect.[44]

Case 46.—F., aged twenty-five years. Sudden attack of umbilical pain, rigor and slight vomiting. On following day pain at pylorus and blood passed per rectum. Temperature then and later 101° F. or less. Attack gradually subsided, but in two weeks a similar but slighter attack occurred. Later, a fluctuating tumor in region of gall-bladder, gradually increasing in size until it occupied the whole right upper quadrant of abdomen. It was crossed by resonant colon—elsewhere dull on percussion. Diagnosis, hydronephrosis. Through lumbar incision a quart of more of clear amber odorless fluid was drawn off. Cyst reached from liver to iliac crest and backward to spine. Kidney not felt. Stuffed with gauze, which next day was soaked with sour fluid. On third day food noticed in dressing. Patient developed acute bronchitis and died on fifth day. *Autopsy:* Duodenal perforation 3.5 inches from pylorus forming this retroperitoneal cyst below right kidney and reaching behind duodenum as far as pancreas.[45]

Case 47.—No history given. Incision from ensiform to pubis. Ulcer found at back of the duodenum and with difficulty stitched. Patient collapsed and abdominal wound hastily closed. Death from hemorrhage from a vessel in the abdominal wound.[46]

Case 48.—Patient neurasthenic and little attention was paid to his statement that he had great pain. Operation on the fifth day when liver dulness was entirely obscured. Gas had escaped from the perforation, but no fecal matter, and the ulcer was therefore sutured and the abdominal wound closed without drainage. Death on the third from infection leading from the site of perforation to the pelvis. Suture firm. The operator thought that pelvic drainage might have saved this patient.[47]

Case 49.—M., aged fifty-two years. Epigastric pain of three days' duration was followed by violent exacerbation. No vomiting. Six hours later the abdomen was tense, rigid, almost motionless, with complete absence of liver dulness in the line of the nipples. A diagnosis of perforated duodenal ulcer was made and operation decided upon. Ten hours after the attack an incision was made through the right rectus and a clean-cut perforation found at the junction of the first and second portions of the duodenum. There was intestinal injection but no well-marked peritonitis. The perforation was closed with two rows of sutures, the intestines were brought out and washed with sterile water. A gauze slip was passed to the site of ulceration and the cavity of the abdomen was otherwise closed. Recovery uneventful. The gauze plug was removed on the second day, and the bowels moved on the third day.[48]

Case 50.—M., aged twenty years. Seven months previous an attack of epigastric pain and vomiting lasting two weeks. Sudden severe pain in the right side of the abdomen, accompanied by vomiting. A few hours later the tenderness was greatest over the appendix. Temperature 102° F., respiration 48, pulse 118. Diagnosis, appendicitis. Twenty hours after the attack, an incision over the appendix allowed the escape of a quantity of odorless gas and fluid. On account of feeble condition further operative attempt abandoned. Death in twenty-four hours. *Autopsy:* Perforation in the duodenum, anterior wall, just beyond the pylorus.[49]

Case 51.—M., aged forty-five years, a moderate drinker. Four years previous had a similar attack. While in perfect health was seized with severe pain in the right side of the abdomen, referred to the iliac region. A few hours later the

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abdominal wall was tense, without distention, or loss of liver dulness; tenderness over the appendix; temperature 100° F., respiration 32, pulse 104. Diagnosis, appendicitis. Twenty-two hours after the attack an incision over the appendix evacuated considerable turbid serum. The appendix was normal. The peritonitis was most marked on the right side and was followed up the colon to the hepatic region, but no cause for it could be found. The whole abdomen was flushed and drains were placed in the duodenal region and in the pelvis. Death in seven days. Autopsy showed a general exudative peritonitis, without free fluid. In the duodenum, anterior wall, just below the pylorus, was a perforated ulcer, and the scar of a healed one.[50]

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Association of American Physicians.—The following officers for the ensuing year were elected at Washington, D. C., May 3, 1900: President, Dr. William H. Welch, of Baltimore; vice-president, Dr. Henry P. Walcott, of Cambridge, Mass.; secretary, Dr. Henry Hun, of Albany, N. Y.; treasurer, Dr. J. T. Crozier-Griffith, of Philadelphia, Pa.; recorder, Dr. I. Minis Hays, of Philadelphia, Pa.; member of the council, Dr. William W. Johnston, of Washington, D. C.

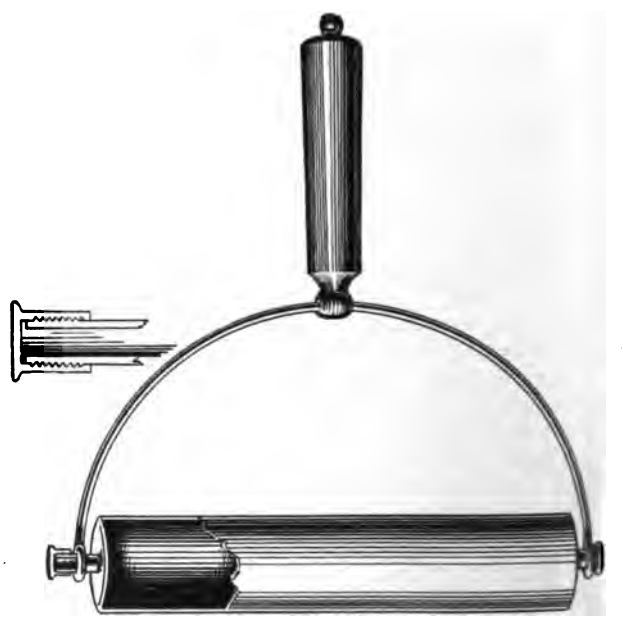
CLINICAL MEMORANDUM.

A METAL ROLLER WATER TANK FOR THE APPLICATION OF HEAT OR COLD (COUNTERIRRITATION).

BY ROBERT COLEMAN KEMP, M.D.,
OF NEW YORK;
CLINICAL ASSISTANT TO THE CHAIR OF SURGERY IN THE NEW YORK POLYCLINIC MEDICAL SCHOOL AND HOSPITAL.

THE various methods for the application of heat for purposes of counterirritation, such as by the Paquelin cautery, the hot-water bag, or ironing with the flatiron or small gas iron, are familiar to us all. The cautery can only be employed by a physician and is objected to by nervous patients. The hot-water bag is heavy and the heat necessarily is continuous, not intermittent and the degree hard to regulate; while with the ironing, the weight of the iron and the difficulty of passing it rapidly and smoothly over the surface without blistering are the objectionable features; nor can it always be conveniently secured. We present to you in Fig. 1, which was

FIG. 1.



Roller Water Tank.

drawn for me by Mr. Thomas Nast, Jr., a device which possesses the merits of simplicity, lightness, cleanliness and cheapness, and which has demonstrated its value by practical use.

It consists of a closed metal cylinder, three and one-half inches long and one and one-third inches in diameter. The walls are extremely thin, so as to secure good conduction. In order to obtain maximum space for the water, the axles for rotation are placed at the ends of the cylinder and soldered there, thus avoiding a single axle which would necessarily be passed through a central tube and give less space for fluid. One of these axles is a hollow tube and through this the cylin-

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der is filled with water. The screw-thread is outside this tube and the cap-screws over and around it, as shown in the smaller diagram. The washer is a solid disc at the bottom of the cap and can be readily replaced by cutting and fitting a small piece of leather. Some difficulty was experienced in expelling the air from the cylinder when filling it, even with a funnel. To obviate this the tube is beveled on the inside in several places, making small gutters for the escape of air about the funnel, even when water is poured directly in. This is feasible, since the hollow filling-tube has the screw-threads and cap on the outside. We find that making the filling-tube slightly funnel-shaped on the outer end is not as practical. An air-vent at the end of the instrument next to the filling-tube, with a screw-cap to close it after the escape of air, is more complicated and costly. The use of a glass roller is somewhat objectionable on account of the expense, liability of breaking, through heat or rough handling; the cork is liable to slip out, under the rapid rotation, and the glass is often rough and heavy—the latter to secure durability—and, moreover, the axles are liable to break.

The illustration readily explains the action of the roller. It is made of brass nickel plated or of gun-metal, and each is supplied with a small metal funnel for filling. The method of application is as follows: It has been my custom to fill the roller with boiling water to about half its capacity, and have more boiling water, or preferably a little alcohol boiling apparatus in action at hand, and change the fluid when it cools. By practical experience the instrument remains sufficiently hot for about five minutes, and then the water is renewed instantaneously, as just described. About two applications or, if required, more can be easily given. A thin handkerchief is first placed over the part, and this can be shortly removed, as the metal cools. The degree of heat can also be regulated by the rapidity of movement and the amount of pressure. If necessary, it can be merely skimmed over the surface.

If cold is to be employed, ice water is readily obtained, or cold water. A little pulverized ice and salt can be added. The patient can easily be instructed in its use.

The applications of this instrument readily suggest themselves, as for instance, in sciatica, muscular rheumatism, neuritis, rheumatic joints, etc. Ointments made with lanolin can be rubbed in, protecting the instrument, the heat being of value to promote absorption.

If moist heat is desired, the handkerchief or flannel can be wrung out in hot or cold water and placed over the part and the cylinder rolled over it. The roller can be made small or large, but the standard dimensions noted are convenient. For skin work a smaller size can be ordered to suit. The instrument is cheap and can be secured, with the funnel for filling it, at the cost of $1.00 at the instrument-store of James T. Dougherty, 409 and 411 West Fifty-Ninth Street. We are aware that there are electric and massage rollers, but so far have no knowledge of the simple device above described.

Ichthoform.—S. Rabow and B. Galli-Valerio (*Therap. Monatshft.*, April, 1900) have made an extensive experimental study of ichthoform, a combination of ichthyol and formalin, which leads them to the following conclusions: (1) Ichthoform when added to cultures has no power of directly killing bacteria, although it restrains their development. (2) It possesses a decided deodorizing power when mixed with fecal matter. (3) Neither frogs nor guinea-pigs react unfavorably to even large doses. (4) It can replace iodoform externally and internally is an efficient intestinal antiseptic.

Resoldol.—The value of the condensation product of saloform and resorcine which has recently been recommended as an intestinal tonic and astringent is stated by Herrmann (*Therap. Monatshft.*, April, 1900) as follows: (1) Being insoluble in water and acids and freely soluble in alkalies, it is probably split up in the small intestines into salicylic acid and resorcine. Saliva and diluted bile readily dissolve it, while in the gastric juice it merely remains suspended. (2) Experiments with the hanging-drop gave materially diminished motility of typhoid and colon bacilli. (3) It is relatively harmless and even large doses may be given with impunity. (4) The taste is but slightly astringent and not disagreeable, and the difficulty sometimes experienced in swallowing the drug can readily be obviated by administering it in wafers. (5) No eructations or other gastric symptoms are complained of and its rectal use is equally convenient and safe. (6) A reduction of temperature could not be demonstrated, nor could salicylic acid or resorcine be detected in the urine. Clinically the author has found resoldol valueless in irritative or purely neurotic diarrhea, but has had more success in those cases depending on infections. Enterocolitis, chronic colitis and intestinal tuberculosis yielded in a remarkable way, while with typhoid the results have not been sufficiently gratifying to pronounce the drug a specific. In cases with marked indicanuria due to coprostasis a decided reduction of the indican was obtained without emptying the bowels. Lastly, resoldol was found to prevent the fetid odor of alcoholic stool. The recommended dose is 45 to 75 grains daily.

Leucocytosis in Surgical Cases.—J. C. Hubbard (*Bost. Med.-Surg. Jour.*, April 19, 1900), after reviewing all the surgical cases in the Massachusetts General Hospital during the last five years, in which white blood-cell counts were made, comes to the following conclusions: The count in health, in non-purulent inflammatory conditions, in purulent conditions, and in non-inflammatory lesions, varies between wide limits. The limits of variation are so nearly alike in these various conditions that the count gives assistance neither in diagnosis nor in prognosis.

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SPECIAL ARTICLE.

THE JACOBI CELEBRATION.

A. JACOBI, M.D., LL.D.,
May 6, 1901.

THE seventieth anniversary of the birth of Dr. A. Jacobi was celebrated at a banquet held Saturday evening, May 5th, at Delmonico's, New York City, and was attended by more than four hundred friends and professional associates of the guest of honor. The gathering included many of the leading medical men of the country, some of whom came from as far as the Pacific Coast to take part in the commemoration. Among those who attended the banquet to mark their appreciation not only of Dr. Jacobi's high attainments as a physician, but of those personal qualities which have gained for him so many friends on both sides of the Atlantic, were men whose names are prominent in commerce, finance and the professions.

Dr. Joseph D. Bryant acted as toastmaster, and seated with him at the guest table, in addition to Dr. Jacobi, were Seth Low, President of Columbia University; Dr. John S. Billings, Dr. William Osler, of Johns Hopkins University; Carl Schurz, Dr. W. H. Thomson, President of the Academy of Medicine; Dr. Charles S. Fairchild, John S. Kennedy, Dr. W. M. Polk, D. S. Lamont, J. W. Keller, Commissioner of Charities; Joseph Larocque, Dr. T. M. Rotch, of Boston; Dr. W. H. Welch, of Baltimore; Professor Chandler, of Columbia; Dr. James W. McLane and Horace White. A large number of women listened to the speeches from the gallery, among them being Mrs. Mary Putnam Jacobi, wife of the guest of honor.

The after-dinner part of the ceremonies was opened by Dr. Joseph D. Bryant, late President of the Academy of Medicine, who presided. He spoke briefly of Dr. Jacobi's career and of his contributions to science:

The reasons for our presence here this evening require of your presiding officer no special words of explanation. Every participant in the spirit of the occasion within this spacious hall, and many without, whose presence we are denied, fully comprehend the significance of the event.

How fortunate indeed it is, in the affairs of this life, that worthy and well-directed efforts, addressed to securing personal and public betterment, frequently beget, though ofttimes somewhat tardily, the sentiments of abiding confidence and esteem for those who prudently proclaim their importance, and diligently labor for their attainment. The opportunities for achievements of this nature are everywhere present and so conspicuously clothed as to invite prompt recognition.

The declaration of the fact that he whom we now honor has throughout his career proven a vigilant and effective exponent of scientific advance and of public excellence suggests no denial and venerates the occasion. I believe, however, that it should be recognized at the outset that the observances of the evening are not devoted more to the learned gentleman, whom we so much delight to honor, than to the recognition of those ennobling virtues of which he is the embodiment, and which, when practised with faithful exactness, make of us better men, better citizens, and therefore establish a better world.

The notable examples of the beneficent labors of our esteemed friend in the exercise of his professional skill and fraternal devotion are singularly akin to each other in their inception and in their spirit. In the one example he dedicated, through various channels of bounty, the full measure of his professional sagacity and fervor to the alleviation and cure of the suffering incident to the freedom of individual birth. In the other we are taught by the history of his fatherland that he bestowed a like measure of patriotic zeal to liberty's cause, fostering the birth of individual freedom. To the former service the ripe abundance of his years has been given, to the latter the richness of his youth was well-nigh sacrificed; with both, his name is indelibly recorded as the wise physician and the uncompromising patriot. Numberless hapless poor of the common sphere of life mingle their joy with that of those of higher station, in acknowledgment of the bountiful aid and comfort experienced at his hands.

Medical thought and medical progress, here and abroad, bear abundant evidence of the potent influence on their status of the products of his studious, logical mind. Thousands of physicians, while students in medicine and at bedside consultation, have gained inspiration and comfort from his teachings and advice in a degree equaled only by that of the fortunate recipients of his pro-

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fessional ministrations. All along the avenues of commendable professional endeavor directed to the attainment of proper public recognition, of increased knowledge and *esprit,* are noted exalted products to the achievement of which he contributed an untiring energy, guided at all times by sincere executive thought. The justice of this statement is witnessed by the significant presence of the New York Academy of Medicine and its library, and further emphasized by the fact that, in the late effort to increase the latter, he supplemented a previous bountiful contribution by the major part of the recent gain.

The patriotic zeal of his earlier life was an earnest of his devotion to public duty during the latter, and in neither instance has the cry of distress gone unheeded, while in both the weak have been strengthened, the wavering encouraged, and the justice of a cause assured by his word and presence. What he was to those of noble aspirations of the land of his birth, he has been and is to those of the land of his adoption.

Such as this, my friends, is something of the record of him whom we honor this evening, more of which, however, will be told by those whose coöperative experience and comradeship permit of more complete and profound utterance than my opportunity or knowledge affords.

I am prompted, however, to say to Dr. Abraham Jacobi himself: Though thy years be three score and ten and each replete with a glorious harvest, so well hast thou performed thy useful missions that we do hope and pray that life's Scriptural allotment of time may be long extended for you, that not only the example for good shall remain, but good itself be correspondingly multiplied.

Numerous letters and telegrams from well-known scientists and physicians from all parts of the world were read, and an original poem by Dr. S. Weir Mitchell of Philadelphia, laudatory to Dr. Jacobi's life and his achievements, in the absence of Dr. Mitchell, was read by Robert Underwood Johnson.

No honors hath the State for you whose life
From youth to age has known one single end.
Take from our lips two well won titles now,
Magister et Amicus—Master, Friend.

From the gray summit of attainment you
Look on the rugged path you knew to climb.
Take, with our thanks, for high example set
The palm of honor in this festal time.

Constant and brave, in no ignoble cause
The hopes of freedom armed thy sturdy youth:
As true and brave in these maturer years
Thy ardent struggle in the cause of truth.

Nor prison bars, nor yet the lonely cell,
Could break thy vigor of unconquered will;
And the gray years which build us cruel walls
Have found and left thee ever victor still.

Ave Magister! Take from us to-night
The well-earned praise of all who love our art
For this long lesson of unending work,
For strength of brain, and precious wealth of heart.
Your busy hand gives much; but, oh, far more,
The gallant soul that teaches how to meet
Unfriended exile, sorrow, want and all
That crush the weak with failure and defeat.

We gave you here a home; you well have paid
With many gifts proud freedom's generous hand
That bade you largely breathe a freer air,
And made you welcome to a freer land.

Ave Amicus! If around this board
Are they who watched you thro' laborious years.
Beyond these walls, in many a grateful home,
Your step dismissed a thousand pallid fears.

That kindly face, that gravely tender look,
Thro' darkened hours how many a mother knew!
And in that look won sweet reprieve of hope,
Sure that all earth could give was there with you.

Ave Magister! Many be the years
That lie before thee, thronged with busy hours!
Ave Amicus! Take our earnest prayer
That all their ways fair fortune strew with flowers.

Dr. William H. Thomson was then introduced to speak of Dr. Jacobi as a physician. He reviewed the venerable physician's services to the science and practice of medicine, and was followed by Dr. William Osler of Johns Hopkins University, who spoke on "Dr. Jacobi as a Man of Science:

Gibbon very wisely says that the only one person capable of passing a correct judgment upon the works of an individual is the author himself. Who knows so well as he the merit of the performance; who so interested in them? Fully agreeing, as every author should, with this authoritative statement, I must begin with an apology to Dr. Jacobi for an attempt to usurp his function, but under the circumstances he will forgive me.

A first and most surprising impression in a review of our friend's literary work is its very modest amount—only three or four volumes, and some sixty major monographs and essays. Knowing the encyclopedic character of the man, how commendable seems this moderation! The first publication against his name is the Bonn Thesis, 1851, *"Cogitationes de vita rerum naturalium."* I doubt if Dr. Jacobi could now appreciate the Cogitationes. The thesis, which is modest only in size, has all the dogmatic freshness of the production of a youth of one-and-twenty. The conclusion of the whole matter is given in a few brief lines at the close: *Nil extra naturam, nil extra materiæ leges,* and there is a third and concluding phrase which I refrain from quoting. It is interesting to note so early in his career the influence of the great master, Rudolph Virchow, from whose writings several quotations are given. With one phrase I remember to have been caught years ago: *"Die Wissenschaften und der Glaube schliessen sich aus."* Science and faith have nothing to do with one another, and only worry comes from a neglect of that strong statement by Tennyson of their essential divergence:

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"We have but Faith; we cannot know;
For Knowledge is of things we see."

Then comes the most impressive period in our author's life—silence for seven or eight years, during which I can find in indexes and catalogues nothing against either his name or his reputation. It is unique, almost, in the literary history of our profession. Would that this more than Pythagorean period of self-restraint could be emulated to-day! But think of the desolation to editors if all the graduates of all the schools of all these States thought and worked, but did not write for seven years after their graduation!

In this audience it seems almost superfluous to speak of the professional writings of Dr. Jacobi. Of his larger works the "Diphtheria" monograph and the "Treatise on the Therapeutics of Infancy and Childhood" have been guides and counselors to thousands of physicians all over the land. Nowhere has there been a better student of diphtheria or a sounder exponent of the subject than Abraham Jacobi. One of his earliest works, the contributions in connection with Dr. Noeggerath, I could not find. Dr. Jacobi mentioned the other night in Washington that it had cost them about a thousand dollars to publish them. I understand that it has disappeared absolutely. It is not known whether Dr. Jacobi possesses copies, nor is it known how much it cost the authors to buy up the entire edition, which is the only possible explanation of its rarity.

Of the monographs and special articles I should like to speak at length were there time, particularly of the splendid contributions upon the intestinal disorders of children. The monograph on the Thymus Gland is a model of careful research. You know as well as I of his scholarly and sound contributions in the various systems of medicine which have appeared from time to time. Of the many occasional addresses that entitled *Non Nocere,* before the International Congress at Rome, and the appreciative sketch of Virchow are models of their kind. I was much interested in one well-worn booklet in the Surgeon-General's Library—the earliest of his contributions in the collection of 1860 or 1861—in which a series of cases is narrated, and in which he gives a statement of how to teach the subject of pediatrics in practical classes in the dispensaries. In this he was, I believe, a pioneer in the United States.

I come now to what may be considered the most important part of his life's work, that relating to infant-feeding. It may be said that the safety of a nation depends on the care of its infants, and no one in this country has done so much for their bodily welfare as Dr. Jacobi. Had they any other language but a cry countless thousands of colic-stricken babes and sucklings would ordain great praise to him this evening. For more than thirty years we find this problem engaging his closest attention, and he has never tired of urging proper methods upon the profession and the public, methods which have always been characterized by his strong, clear sense. There is no single question before this nation to-day of greater importance than how to return to natural methods in the nature of infants, and you will pardon me if I here make a slight digression. The neglect of the natural mode is an old story in Anglo-Saxondom. St. Augustine, so Bede tells us, wrote to Pope Gregory complaining that the question of infant-feeding was worrying him not a little. I understand that a systematic effort is to be made to supply to every child born in this land its rightful sustenance for one year at least. Under the auspices of the Pediatric Society and the Woman's Christian Temperance Union, a Woman's Infant-Suckling Union is to be established which will strive to make it a criminal offence against the State to bottle-feed any infant, and which will provide in large and well-equipped sucklingries ample sustenance when a mother from any cause is unable to do her duty. Rotch tells me that the action on the part of the Pediatric Society has been influenced by an exhaustive collective investigation on the future of bottle-fed babies, in which it is clearly shown that intellectual obliquity, moral perversion and special crankiness of all kinds result directly from the early warp given to the mind of the child by the gross and unworthy deception to which it is subjected—a deception which extends through many months of the most plastic period of its life. According to these researches you can tell a bottle-fed man at a glance, or rather at a touch. *Feel the tip of his nose.* In all sucklings the physical effects of breast pressure on the nose are not alone evidenced in the manner set forth so graphically by Mr. Shandy, but in addition the two cartilages are kept separate and do not join, whereas in bottle-fed babies, in whom there is no pressure on the tip of the nose, these structures rapidly unite, and in the adult present to the finger a single sharp outline, entirely different from the split, bifid condition in the breast-fed child. The collective investigation demonstrates that all silver democrats, many populists and the cranks of all descriptions have been bottle-fed, and show the characteristic nose tip. Utopian as the scheme may appear (and directly suggested, of course, by Plato), who can question the enormous benefits which would follow the substitution of such sucklingries for the present Walker-Gordon Laboratories and other devices—benefits untold to helpless infants; blessings to thousands upon thousands of women whose energies would be directed into their natural lactiferous channels, and, most important still, a gradual elimination of those pernicious bottle-fed influences, to which may be attributed so many evils both to the State and to the individual.

Looking over Dr. Jacobi's books and papers, one gets the impression of an honesty of purpose and a sincerity in them all. There is no claptrap, no gallery-play, but a faithful administration of an intellectual trust, and, what is more,

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the professional spirit is reflected in them always on the nobler side. There is a double meaning in the well-known lines:

"Heard melodies are sweet, but those unheard
Are sweeter."

and let us hope that what may come from his pen in the future may excell his past performances. A volume of poems, "*Songs in Silence*," written *in der stille* of his prison-house, would be most acceptable, or a novel (of which Dr. Janeway has just spoken to me) in three volumes, or, better than either, his "Jugenderinnerungen," which he really should leave to us as an evening legacy.

To speak seriously, this magnificent demonstration is a tribute not less to Dr. Jacobi's personal worth than to the uniform and consistent character of his professional career. The things which *should* do not always accompany old age. The honor, love, obedience and troops of friends are not for all of us as the shadows lengthen. Too many, unfortunately, find themselves at seventy "nursing a dwindling faculty of joy," amid an alien generation. Fed on other intellectual food, trained by other rules than those in vogue, they are too often, as Matthew Arnold describes Empedocles, "in ceaseless opposition." Against this interstitial decay, which insidiously, with no pace perceived, steals over us, there is but one antiseptic, one protection, the cultivation and retention of a sense of professional responsibility. Happiness at threescore years and ten is for the man who has learned to adjust his mental processes to the changing conditions of the time. In all of us senility begins at forty—forty sharp—sometimes earlier. To obviate the inevitable tendency, a tendency which ends in intellectual staleness as surely as in bodily weakness, a man must not live in his own generation. He must keep fresh by keeping in contact with fresh young minds, and ever retain a keen receptiveness to the ideas of those who follow him. Our dear friend has fortunately been able to do this in a remarkable manner, since he is one

"Whose even-balanced soul
Business could not make dull, nor passion wild,
Who saw life steadily and saw it whole."

Mr. Carl Schurz, speaking upon the theme of "Dr. Jacobi as a Citizen," said in part:

"In him we see one of the adopted citizens whose peculiar patriotism is not always quite understood and appreciated by our native friends. It may strike some of you as somewhat audacious when I say that the adopted citizen may in a certain sense be a more jealously patriotic American than the native. And yet it is true. The adopted citizen usually preserves certain sentiments and reverential attachment to the country of his birth. But just because of this, many of them are especially anxious to see the country of their adoption by its virtue and the high character of its achievements justify their separation from their native land, and enable them to point with just pride to the choice they have made. They may for this very reason, when they see the character of their adopted country put in jeopardy, or its good name in the family of nations endangered, resent this, and stand up for the cause of right, and of integrity, and of honor in their adopted country with an intensity of feeling even greater than that which ordinarily animates the native."

Then came the presentation of the "Festschrift." Dr. A. G. Gerster was deputed to hand the volume to Dr. Jacobi, and in doing so he said: "It was nearly two thousand years ago that the poet of the Augustine era, Horace, penned the boastful but true words, 'Exigi monumentum ære perennius.' Everyone knows how the prediction has been literally fulfilled. However, the poet's conviction would not have been thus confidently expressed had there not been underlying it the solid fact that of all men's works there is none more enduring than the written word. It is not strange, therefore, that when a group of five men met a year ago last February to consider a way in which the seventieth birthday of Dr. Jacobi ought to be celebrated, that the idea of publishing a 'Festschrift,' that is, a collection of literary contributions furnished by a number of willing friends and colleagues, was immediately adopted.

"I hold in my hand a volume containing the scientific contributions of fifty-three medical men of note, men representing two continents and eleven nations. This tribute of the veneration and esteem of the authors is adorned by a splendid etching, the product of the masterly needle of James D. Smillie, a faithful image of the Ambrosian features of the original. I trust that the contents of the volume may be found as worthy of him whom they are meant to honor as their outward garb."

Dr. Jacobi, rising to respond, was greeted with cheers that were again and again renewed. He was obviously moved by the warmth of the reception extended to him, and in beginning his address he expressed the wish that he could proceed from man to man and in silence press their hands, for words did not suffice for the throng of feelings that swelled his heart.

When he first came to this country, he said, he knew nothing of American medicine. It was simply unknown in Europe. Nor was America much better informed in regard to European medicine. With the exception of a few translations from the French and a number of English republications—called American editions—European literature was but scantily known and appreciated, except by the few. He reviewed the progress and development of medical education and institutions in this country in the period over which his knowledge extended. Continuing, Dr. Jacobi said:

"I take it for granted that I am expected to speak, in part, I suppose, of the topic of the evening—myself. But how? And what? I have been eulogized as if I were dead. Not being quite

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dead yet, I should not join in the praise. On the other hand, to speak derogatorily of my doings would be discourteous to those who expressed their good opinions.

"In accordance with my democratic schooling, I was fortunate enough to have respect for the individual. That is why I found it easy to imagine myself in the place of a patient and to spare his feelings if I could not preserve his life. Where you cannot save you can still comfort. I never told a patient he had to die of his illness, and I hope I shall never be so careless or so indolent as to do so in future. The magnetic needle of professional rectitude should, in spite of occasional deviations, always point in the direction of pity and humanity. Another lesson I learned early was this, that my patient had to be treated, and not the name of his disease.

"Meanwhile the profession, and I among them, has plodded on. Untold thousands have arisen this half century of mine, or passed away. There were the wage-workers, the teachers, the pathfinders. There were those who fought disease or epidemics bravely and survived, or those who died in a single task and left their small children hungry. It is true the time has passed by when the doctor was killed when he lost a patient. That is different now. We are more civilized. We are satisfied with murdering his good name.

"The brave physician's work was always hard, for it is as difficult to save one life as it is easy to kill a thousand. That is why I cannot feel enthusiasm for the doctor who is occasionally puffed for leaving his humane work to participate in the killing; nor for the injustice of history that mentions a thousand generals to one physician. Some of what I have said may be objected to. But I know that the views I expressed were mine always, and are not engendered by advancing age. What, after all, is age? The boundary line between the young and the old is not, I take it, in the bald head or the gray whiskers, but in the change of a man's ambitions, motives and purposes, and of his relations to the world and its ways and aims. It is true I have been told even to-night that I am seventy, in the pleasant way, though, you have of showing your condolence. I can bear it as long as those not so old as I am accused of being treat me as their equal and call me young—for an aged man.

"A word to the young. I am afraid we old men are past changing; but it is a failing in our national character to be always cordial, always courteous, always handshaking. We do not identify the sin and the sinner; we abhor the former, and are too good-natured to shun the latter. If there be a danger to our morals and our politics, it is there. If you, the young men in the profession, will refuse approval and honors to men whose actions and methods you condemn; if you will only show them that your heart is chilled against them—some of them are in public positions—there will soon be an end to offences which need not always result from wickedness, but bad taste only. There are those indeed among the vain who fear the display of bad taste more than the perpetration of sin.

"After all, however, when I look backward I really do not believe that the moral tone of the profession is lower than circumstances will always necessitate in this period where trade is everything. There was jealousy, strife, and competition at all times, and men were always human. The 'good old times' is an ideal that, while its consummation is too far ahead or beyond the horizon altogether, is searched for backward. Doctors were always what their time, their people, their surroundings made them.

"And this 'Festschrift!' These last weeks I wondered many a time, and I do so now, that I should be the receiver of that honor. When many years ago heroes like Virchow and then, again, Henoch, were to be held up for the admiration of the medical world, on both occasions I had the privilege of coöperating in the expression of the estimation in which they were held. This distinction is rare even in the country of my birth.

"That the country which adopted me and made me a peer among peers, opportunities to work, should in true cosmopolitan spirit adopt this method, rare enough in Germany, of raising a man to the greatest possible height of distinction and make him shine above all men—and this man I—is far, far beyond what was the culmination of all my possible hopes."

By the calendar the anniversary of Dr. Jacobi's birth fell upon May 6th, and although the dinner was begun the previous night, it was continued well into the early hours of the guest's natal day. At midnight the four hundred and more diners rose in a body and with filled glasses drank, to the accompaniment of song and cheers, a toast of long life and happiness to Dr. Jacobi.

The Festschrift is in the form of a volume of some five hundred pages, and is entitled "International Contributions to Medical Literature." It contains a symposium on medical subjects by a large number of French, German, English and Spanish scientists. Nearly a year was required to compile the work, which was planned after those presented to famous European scientists upon their anniversary. It is believed to be the first of its kind ever prepared in this country, and an edition of a thousand copies has been printed for distribution among the libraries and physicians of the United States.

MEDICAL PROGRESS.

Fortoin—A New Cotoin Preparation.—Overlach (*Wiener medizin. Blaetter,* April 12, 1900) reports on the value in therapeutics of the new preparation of cotoin produced by the action of formaldehyd on the latter and called fortoin. It is a yellow, crystalline substance, with an odor suggesting cinnamon, and tasteless. The dose of fortoin is 0.25 gram for adults three times daily. As much as 0.5 gram can, however, be borne

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without any disturbances arising. Its chief indication is the diarrhea arising from any cause in which the intestinal mucous membrane has been dislodged in places and carried off. Heretofore the tannin preparations have been used in such cases, but the disorder always returned with the discontinuation of the drug, for tannin does not cause regeneration of the membrane to take place. On the other hand, fortoin stimulates the membrane to renewed growth and activity, resulting in the rapid return to its normal condition in which proper resorption may again take place. Overlach has used fortoin in eight cases of typhus abdominalis of which five were indubitably benefited. Hemorrhage did not result in any of the cases. Fortoin seems to be a drug of considerable efficiency.

The Hair and Severe Fevers.—G. T. Jackson *N. Y. Med. Jour.*, May 5, 1900) gives several very useful hints in regard to the management of entangled and loose hair after severe illness. An attempt should be made to have the hair combed or brushed each day during the illness, and in this way bad snarls may be avoided. If, however, the patient recovers with a mass of entangled hair and is under fifteen years of age the hair may be cut, but after that age and even below it, if the patient can command good attendance, it is much preferable to have patience and disentangle the hair by quiet and persevering effort. He advises against shaving, as it entails a great deal of discomfort from wearing a wig and causes a good deal of useless embarrassment. Only the diseased hair is removed by daily combing. Once or twice per week a little pomade, containing a dram of precipitated sulphur to the ounce of cold cream, should be well rubbed into the scalp, or a three-per-cent. resorcin solution in alcohol and oil may be used. Once in two or three weeks a shampoo with any good soap, such as the tincture of green soap, should be given. After washing, the hair should be carefully dried and a little pomade rubbed into the scalp to take the place of the natural oil removed.

Guajacetin in Tuberculosis.—The most extraordinarily favorable results have been obtained by W. Meitner with guajacetin in tuberculous cases (*Wien. klin. Rundschau,* April 1st, 1900). The special points of preference are the prompt cessation of temperature, the lessening of the mucous secretion and the good influence upon the night sweats. Guajacetin differs from other remedies in that it has no effect upon the accessory organs. Indeed, upon the stomach it exerts even a beneficial influence, acting as an admirable stomachic. It is often of great advantage to combine encasin with this drug, especially in the old cases with intense gastritis.

Ichthalbin in Intestinal Affections.—From a study of a large number of cases suffering from catarrhal affections of the alimentary tract, B. Rolloy (*Münch. med. Woch.*, April 24, 1900) reaches the following conclusions: (1) Ichthalbin in maximum doses of 2 drams daily can be taken continuously without causing constipation or irritation of the gut or kidneys. (2) It diminishes the excretion of nitrogen and thus allows of better proteid assimilation. (3) An increase in appetite and gain in weight are among its good results. (4) Abnormal putrefaction in the intestine is regularly diminished. (5) In simple chronic enteritis, as well as in cases complicated with chronic peritonitis or tuberculosis, good results are almost uniformly noticed. (6) Even subacute gastric and intestinal inflammations are favorably influenced. The proper dose is 5-10 grains three times daily for children under one year, and 10-15 grains for those over one year of age.

Treatment of Consumptive Poor.—It is, of course, almost always advisable to send those unfortunates who are afflicted with early pulmonary tuberculosis away from a city like New York and into a suitable climate amid pleasant and healthful surroundings. Among the poor, however, there are always numerous cases that are practically unable to afford such luxury, and it is, indeed, a problem to know how to manage such patients. J. F. Russell (*N. Y. Med. Jour.*, May 5, 1900) has detailed a plan which has been followed at the Post-Graduate Dispensary during the past two years with a moderate degree of success. The experiments were tried on those cases which showed unmistakable signs of tuberculosis and yet had not gone on to the formation of cavities or the involvement of large areas of the lung. All the patients were employed during the day, but were required to come to the dispensary twice each day, early in the morning, and in the evening. The plan of treatment followed was based on what is generally accepted as the most rational one, *viz.*, fresh air and sunlight in abundance, good food, plenty of sleep, regulated exercise and attention to the small things of daily life which are known to influence nutrition favorably. The instructions given included the injunctions that they must present themselves at the dispensary twice each day, Sundays and holidays included; that they must eat regularly the most nutritious foods within their means, alcohol being forbidden and tea and coffee limited; that they must keep their feet dry and warm and avoid overclothing; that they must sleep with windows open in all weather, and must keep in the open air as much as possible, avoiding places of amusement and late hours at night. No medicines were given except cathartics, but at each visit any change in the patient's condition could be noted and carefully attended to. A preparation of easily digested fats was also given at each visit to aid in the nutrition of the patient. By this means a large number of poor people suffering from pulmonary tuberculosis in a curable condition can be reached and successfully treated without interfering with their means of livelihood.

Bromipin in Epilepsy.—In an article by A. Kothe in the *Neurol. Centralbl.* is reported in the

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Wiener mediz. Blätter (April 12, 1900) in which the author outlines the treatment of epilepsy with bromipin. Every case, whether of recent origin or not, is compelled to submit to absolute rest in bed for some weeks at first. This rest is disturbed only by two weekly baths in tepid water; the diet being hygienic-dietetic in character. No medication is resorted to at all at the beginning of the treatment. After the lapse of several weeks and at the termination of a severe attack the bromipin treatment is begun. The initial dose is about 15 grams, introduced per rectum and increased within six or seven weeks to 30 grams or even 40 grams, but never is a larger dose given than will just suffice to control the tendency to convulsions and the possible psychic disturbances. At that point the treatment remains for about two or three weeks, and then a gradual diminution in the administration of the bromipin to the original dose, is advised. The entire course of treatment occupies about a quarter of a year. Occasionally it is necessary to repeat the course once or twice, but in these repetitions it is not advisable to include the rest in bed. Whether the good results obtained by this treatment are due to the different methods of administering the bromipin or whether they are due to the different combination of the bromine remains to be seen. The chief value of any treatment for grand mal lies, in the author's opinion, in the strict regulation and method of the treatment and in the prolonged course during which such treatment is applied.

The Bubonic Plague.—Walter Wyman, Surgeon-General Marine Hospital Service, says (*Document* 2165, *Treasury Dept.*, Washington, 1900) that the plague or malignant polyadenitis is caused by a coccobacillus, devoid of automobility, and best stained by a one-per-cent. carbolized solution of thionin. In persons recently dead of the disease it takes the form of a long slender, segmented, and vacuolated bacillus. It is carried about by rats, mice, snakes, beetles, bugs, flies, dogs and other animals which are susceptible to the infection, but not by the purely herbivorous animals such as horses, sheep, rabbits, etc. In many instances an excessive mortality among rats has been noticed previous to the outbreak among human beings, those being first infected who had handled the dead rats. The bacillus enters the body through a wound, or the air passages, or the alimentary tract. Its development is favored by heat and moisture, bad sanitary conditions, and insufficient food. The death-rate among Asiatics is from 50 to 90 per cent., but among Europeans is less than 20 per cent. The disease can be easily controlled by careful isolation and sanitation, one of the best disinfectants for rooms being formaldehyd gas. All evacuations, sputum, clothing, bedding, etc., should be disinfected, and the patient kept isolated for one month after apparent recovery. Among those attendant on the sick, one c.c. of the Haffkine prophylactic should be injected once a month. The viability of the plague outside the animal body is very short, and it is probable that merchandise is not an important factor in spreading the infection. The period of incubation varies from twelve hours to eleven days. The disease has been classified clinically into the bubonic or ganglionic, the septicemic, and the pneumonic forms. Usually a small red spot marks the point of infection, and this becomes vesicular, and then pustular, and in the bubonic form a general redness, or a series of vesicles, may mark the passage of the infection along a lymphatic channel. The bubonic form begins with a chill, fever, much prostration, nausea, vomiting, pains in the head and limbs, and the rapid formation of a painful bubo surrounded by extensive edema. The glands of the groin, axilla and neck are most susceptible. If these break down and a general infection takes place the patient becomes rapidly septicemic, with stupor, delirium, and cardiac weakness. If the swelling is limited and an abscess forms, there is a marked amelioration of the symptoms and the prognosis is favorable unless secondary infection takes place. The bubonic form may be so mild as to go unrecognized, yet the patients may propagate the disease. In the septicemic form the glandular swellings may be very slight yet the fever, delirium and prostration indicate severe poisoning, and death ensues in a few hours; or the septicemia may be subacute with tendency to recovery. The pneumonic form is the most insidious in its onset, the most difficult of diagnosis, and the most fatal. The pulmonary signs are not evident for from one to four days after the onset of the disease; then there is pain in the side, difficult respiration, dullness, crepitant and subcrepitant râles, and a persistent cough, with tenacious dark-colored or bloody, or prune-juice expectoration. The consolidation is mostly lobular. In all types there is a tendency to hemorrhage into the spleen, kidneys, spinal cord, and subdural and arachnoid spaces. To sum up, plague is an acute febrile disease of an intensely fatal nature, characterized by inflammation of the lymphatic glands, marked cerebral and vascular disturbances, and by the presence of a specific bacillus. The only curative is the antipest serum of Yersin and Roux, 30 to 50 c.c. of which should be injected at the earliest possible moment. This may also be used as a prophylactic in dose of 10 c.c. repeated every ten days. Among the sequelæ of the plague are boils, carbuncles, chronic suppuration of glands, eruptive skin diseases, and various paralyses.

Tumors of Vermiform Appendix.—In calling attention to the occasional appendix tumors, A. O. J. Kelly (*Proceedings Path. Soc.* of Philadelphia, March, 1900), reports two cases of fibromyoma, three of carcinoma and one of endothelioma. One of the former accompanied fibromyoma of the uterus and gave but mild symptoms. The endothelioma was accompanied by four separate attacks of pain, vomiting, etc.,

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leading to the diagnosis of recurrent appendicitis. The appendix was easily outlined by palpation. One of the carcinoma cases gave typical symptoms of acute appendicitis, and pus was found at operation, but microscopical examination showed the malignant growth. Another of the carcinomata caused frequent attacks of abdominal pain, which were always relieved by free purgation.

Gonorrheal Arthritis.—Summing up forty-eight cases, James Stewart (*Montreal Med. Jour.*, March, 1900), finds that all the patients were young adults, six were females, three only gave previous history of inflammatory rheumatism, fifteen had had gonorrhea arthritis before, and in twenty-six it was the first attack of gonorrhea. The arthritis appeared at any time from the third week of the discharge until long after the urethritis had subsided. In most, the urethritis was still active, in some it had become chronic, in four the genito-urinary system was normal. Some cases began with sudden pain and inflammation usually occurring at night; in many the onset was gradual with involvement of one joint and slow extension to others. Most were polyarthritic, some became chronic, many were left with impaired joints or even complete ankylosis. In seven cases the heels and soles alone were affected. Three cases were septicemic with fever and grave constitutional disturbance. The knee was most frequently attacked. Next the heel and plantar fascia, then in order, ankles, feet, elbows, shoulders, wrists, hands, vertebræ, temporomaxillary, sternoclavicular, and thyro-arytenoid. The commonest complication was endocarditis, next iritis. For treatment, salicylates, salol, potassium iodide and alkaline mixtures, and the local application of iodine were valueless. The best results were obtained from rest in bed, low diet, the exposure of the joint to dry heated air at 300° F. for half an hour by the Tallerman-Sheffield apparatus, and hot fomentations, or blisters, with fixation by splints, and, in the chronic cases, massage.

Mothers and Alcohol. — Maurice Nicloux (*L'Obstétrique*, March 15, 1900) reports an extensive series of experiments with the following conclusions: Ingested alcohol passes from the mother to the fetus and into her milk, the proportion in the blood of the fetus, and in the milk being about the same as in the blood of the mother. Therefore the nervous conditions, drunkenness, anesthesia, etc., of the drinking mother must indicate a marked toxicity in the infant, and the whole baneful influence of alcohol upon the tissues is exerted during their process of formation, with especial injury to the nervous supply.

Treatment of Fibroids.—W. Duncan (*Lancet*, April 21, 1900) says fibroids often cause deterioration in general health when they do not produce hemorrhage. Diseases of the heart and arteries are often associated with them. Abortion is liable to occur and the prognosis is grave. Parturition is often dangerous. Operation should be performed only in cases where the symptoms demand it, as in menorrhagia; metrorrhagia; various marked pressure symptoms; increase in size of the tumor, especially after the menopause. Drugs and electricity are merely palliative. Of the various surgical measures, curettage with the removal of polypi and submucous fibroids often gives very great relief. Removal of the appendages frequently fails to stop the growth and the hemorrhages, and the mortality is not insignificant. Morcellement through the vagina and dilated cervix is unsurgical and dangerous except in case of small or polypoid submucous fibroids. Enucleation of large tumors has a far higher mortality than hysterectomy and no compensating advantages. Saving the uterus under these circumstances is a source of danger, for it is unduly thin and in a state of degeneration unsuitable for gestation. These statements apply with equal force to subperitoneal myomectomy. When operative treatment is demanded, abdominal intraperitoneal hysterectomy is by far the best, since its mortality is slight (1 to 2 per cent.) and it gives the best opportunity of examining and dealing with the ovaries and tubes. It is also desirable to leave a small piece of cervix so as to avoid opening the vaginal canal. The ovary and tube of one side at least should be left in if possible, for convalescence is easier, the artificial menopause is not produced, and the sexual feeling remains. The causes of death after hysterectomy are heart failure and intestinal paralysis. For the heart strychnine and brandy should be used for a few days before and after operation. As to intestinal paralysis, prevention is the best treatment. A rectal tube is passed high up every four hours, and if flatus is not passing in twenty-four hours, an ounce of turpentine in a pint of hot water is injected high into the bowel, repeated at intervals of four hours if necessary. Saline aperients are useless. If well-marked tympanites once appears death is almost certain.

Lung Disease Caused by Inhalation of Dust.—Cn. Bäumler (*Münch. med. Woch.*, April 17, 1900) points out the great resemblance between certain forms of pneumonokoniosis and tuberculosis. The patients are generally advanced in life, poorly nourished, and suffer from cough and muco-purulent expectoration with slight fever. On examination consolidation of one or both apices will be found. The absence of tubercle bacilli in the sputum and the great improvement which follows mere rest and proper hygiene would, however, militate against consumption. Should the morbid process continue, emphysema, putrid bronchitis, bronchiectasis and finally tuberculosis may result. As a valuable physical sign in the diagnosis of pneumonokoniosis, with or without complicating tuberculosis, the author mentions the retraction of the upper anterior lung margin on one or both sides which can readily be demonstrated by percussion over

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the sternum and which is sometimes so marked as to lay bare the entire anterior mediastinum.

Diabetic Laryngitis.—Patients whose urine contains an appreciable amount of sugar but whose general health has not yet suffered will often consult the physician for a peculiar dryness of the throat and insufficiency of the voice after use. On examination the posterior pharyngeal wall is found to be dry, smooth, glistening and copper-colored and the vocal cords have a peculiar shiny, glazed appearance. O. Leichtenstern (*Münch. med. Woch.*, April 17, 1900) considers these signs as diagnostic of early diabetes. With proper dieting, the parts will return to the normal, showing that there merely is a hypersecretion without pathological change, although the latter may develop in the form of a sclerosis when the diabetes persists.

Cardiac Hypertrophy in Renal Disease.—A. Bier (*Münch. med. Woch.*, April 17, 1900) looks upon the enlargement of the heart in Bright's disease as a useful, compensatory process. It is well known that the cells of the convoluted tubules remove excrementitious matter from the blood. Since a great number of these cells are destroyed by the connective tissue proliferation an increased amount of work falls upon the remaining ones which require a large amount of fluid to prevent an accumulation of the toxic products within them. Thus follows polyuria, and this again necessitates cardiac hypertrophy. Although the process so far is salutary, it is obvious that the greater strain to which the arterial system is exposed will eventually lead to endarteritis, while finally there must come a time when either the overworked heart or blood-vessels will no longer bear the pressure and degenerative process will occur.

Extirpation of Gasserian Ganglion.—H. Cushing (*Jour. Am. Med. Assoc.*, April 28, 1900) publishes an operation for removing the Gasserian ganglion which necessitates less manipulation of the brain, causes less hemorrhage, and gets the ganglion out in toto more easily than other methods. A horseshoe incision is made, base 4 cm., on the zygomatic arch, convexity slightly higher than the pinna of the ear. This skin-flap is turned down exposing the temporal fascia well down to its attachments to the malar bone and zygoma. Along the outer surface of the zygomatic arch an incision is made through the periosteum which is raised from the upper portion, leaving the masseteric attachments intact, and the ends of the zygomatic arch are cut through by bone forceps. An incision through the temporal fascia and muscle is then made concentric with the skin edge, and the soft structures retracted well down from the temporal fossa which is then completely exposed. With a gouge a small opening is made through the most prominent part of the great wing of the sphenoid and enlarged by the rongeur to 3 cm. The middle meningeal runs on the dura across the opening, and both may be lifted from the middle fossa as far as the firm attachment to the foramen ovale. Between the firm attachments of the dura to the foramen ovale and rotundum the envelope of the ganglion may be split, and by careful dissection its entire upper surface exposed, care being used not to disturb the ganglion itself since its blood-supply comes mainly from below. Then the ganglion is liberated by blunt dissection from the base of the skull, the second and third branches and, finally, the sensory root and first division are liberated, when the ganglion may be removed entire by cutting the three branches and evulsing the sensory root. This order of procedure gives the least bloody field of operation. By staying close to the sensory root one is less apt to damage the cavernous sinus or the sixth nerve. The brain is then allowed to fall back into place, and the muscle, fascia and skin sutured. The wound heals by primary union without drainage.

Tuberculosis of the Skin: Accidental Inoculation.—The danger of inoculation of the skin with tuberculosis, which laryngologists and other practitioners run, is well illustrated by the following case reported by Jay L. Schamberg (*Jour. Cutaneous and Genito-Urinary Dis.*, May, 1900). The patient was a laryngologist who accidentally cut out a piece of the skin about one-eighth inch in diameter on the knuckle of the left thumb with the nail of the right thumb. The cut extended into the true skin. This cut did not heal over for six or eight weeks. Scabs formed over it, but pus collected under each and it broke open again and again. The tissue, after healing around the edges of the scab, became reddened, hypertrophied, and hypersensitive, extending until it was one-half inch in length and five-eighth of an inch in width. This tumor was ovoidal in shape, of a bluish-red color, soft to the touch, and was elevated about one-quarter of an inch. It was smooth except for several small pin-head depressions. It was not warty in character, nor was there any apparent thickening of the horny layer of the skin. The tumor varied in size from time to time and was somewhat compressible. There was slight pain on pressing the growth. The patient was treating two patients for tuberculosis of the larynx at the time he cut himself. The tumor had lasted seven months when the writer made the diagnosis of tuberculosis of the skin and excised the growth. The wound healed nicely and there has been no recurrence in five months. The microscope demonstrated a tuberculous nodule. No tubercle bacilli were found in the few sections in which search was made for them. Two guinea-pigs were inoculated with fragments of the tumor. One died and the autopsy showed extensive tuberculosis. When the other was killed, there was found a cold abscess, containing creamy pus, at the site of the wound, and a number of tuberculous nodules on the liver. Schamberg says that this growth cannot be classed accurately with any of the existing clinical types of tuberculosis cutis.

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SATURDAY, MAY 12, 1900.

EPIDEMIC CEREBROSPINAL MENINGITIS.

EVERY year, especially in the spring, some cases of epidemic cerebrospinal meningitis occur in various parts of the country. Last year a series of contributions from the South and Middle West showed that the disease was not omitting its annual visitation. This year reports show that the disease is not quiescent.

For a time it seemed that the discovery of the meningococcus intracellularis by Weichselbaum solved definitely the problem of the etiology of the disease. Further investigation has shown, however, that the solution is not as simple as at first anticipated. Many of the cases of sporadic cerebrospinal meningitis are due to meningeal infection with the pneumococcus; epidemics of pneumococcus meningitis have also occurred. This infection is often secondary to pneumonia, but is also not infrequently primary. The occurrence of pneumonia during the course of a cerebrospinal fever does not absolutely stamp the affection as due to the pneumococcus. Pulmonary affections resembling very closely croupous pneumonia have been demonstrated to be due to the meningococcus intracellularis.

The mortality of genuine cerebrospinal fever—the spotted fever of the older authors—is, as is well known, very high, more than 50 per cent. of the cases terminating fatally. The prognosis of pneumococcus meningitis is absolutely unfavorable. Not a single case of recovery from the affection is considered ever to have taken place.

Besides these two microörganisms there are others that give rise to cerebrospinal meningitis. Netter is of the opinion from observations in Paris that most of the cases of presumed epidemic cerebrospinal meningitis, in that city, are not due to the Weichselbaum-Jaeger micrococcus, but to one that has certain differential characteristics. It is probable that these forms of the disease can be differentiated clinically as well as bacteriologically and an interesting problem in diagnosis be thus elucidated.

The use of lumbar puncture in this disease, in thousands of cases, shows how absolutely innocuous is this procedure. When the microscopic investigation of the cerebrospinal fluid is positive it constitutes the only absolutely pathognomonic sign of the form of meningitis present. An important aid in diagnosis that has been taken advantage of in very recent years is the microscopic and cultural investigation of the secretion from eyes, ears, and nose. In all of these the characteristic meningococcus has been found. This gives the clue to the mode of distribution of the disease, which, up to the present time, has been a mystery. The necessity for the most careful antiseptic precautions in the disposal of these secretions is now manifest. While the disease has never been virulently contagious, a certain number of cases in every epidemic have occurred among those in immediate contact with patients.

The only therapeutic hint of any promise that is to be found in the recent literature, for, almost needless to say, lumbar puncture has proved of no service therapeutically, is the use of the Credé ointment. A number of cases in the hands of various careful observers have apparently been benefited by this remedy. The affection is, however, so uncertain in its mortality that only encouragement, not assurance, is afforded by the reports.

THE TENEMENT-HOUSE COMMISSION AND ITS WORK.

IT is gratifying to know that the Tenement-House Commission appointed by Governor Roosevelt April 16th, in accordance with the law enacted by the State Legislature during the past winter, has already organized and begun its work.

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The progress of its investigations will be followed with constantly increasing interest. The various factors in the case multiply rapidly as the work progresses and lend an ever-increasing fascination.

By the terms of the bill the Commission is directed to make a careful examination into the condition, construction, healthfulness, safety, and rentals of tenement-houses, and the effect of tenement-house life on the health, savings and morals of those who live in them. The attendance of witnesses is compulsory and fifteen thousand dollars has been appropriated for the expenses of the Commission, although the members serve without compensation. There is thus brought under the province of this Commission a study of the widest possible range of sociologic problems relating to the morals, the health and the general well-being of the largest part of New York City's population. These problems are of the first interest to the medical profession and we purpose to study them in their various phases, obtain if possible a more intimate knowledge of the tenement-house question and emphasize to the Commission the pressing need of reform from the standpoint of sanitation.

That the profession may have assurance of the comprehensive scope of this Commission in its make-up and of the earnest the Commission gives of valuable and far-reaching conclusions, it is important to know who are the men that have been selected to serve upon it. And we find that the Commission is composed of physicians, of practical architects and builders, of lawyers who have made a special study of the subject and men who have filled public administrative positions. Then there are representatives of the wage-earners, the tenants and the tenement-house proprietors. So admirably have the members of this Commission been selected that to fully appreciate the excellence of the work that may be expected of them the list is herewith appended:

Raymond F. Almirall of Brooklyn; architect, of the firm of Ingle & Almirall, who studied his profession at Cornell University and the Ecole des Beaux Arts, in Paris.

Hugh Bonner of Manhattan; ex-Chief of the Fire Department of New York City.

Paul D. Cravath of Manhattan; lawyer, of the firm of Seward & Guthrie.

Robert W. De Forest of Manhattan; lawyer and President of the New York Charity Organization Society.

William A. Douglas of Buffalo; lawyer and trustee of the Charity Organization Society of that city.

Otto M. Eidlitz of Manhattan; builder, of the firm of Mark Eidlitz & Son.

F. Norton Goddard of Manhattan; merchant and Aide-de-Camp on the Governor's staff.

Dr. Elgin R. L. Gould of Manhattan; President of the Suburban Homes Company and ex-statistical expert of the United States Department of Labor and an owner of tenement-houses.

William Lansing of Buffalo; architect.

William J. O'Brien of Manhattan; representative of labor organizations and candidate for Sheriff of New York County at the last election.

James B. Reynolds of Manhattan; head worker of the New York University Settlement.

I. N. Phelps Stokes of Manhattan; architect, of the firm of McKim, Mead & White.

Myles Tierney of Manhattan; a retired builder and manager of the New York Catholic Protectory.

Alfred T. White, of Brooklyn; President of the Brooklyn Bureau of Charities, ex-Superintendent of Public Works, and an owner of tenement-houses.

Dr. George B. Fowler of New York; physician and Health Commissioner under the administration of Mayor Strong.

ECHOES AND NEWS.

NEW YORK.

Pauper Labor Abolished.—Commissioner Keller, of the Department of Charities, has extended his crusade against pauper labor in the department hospitals by discharging one-half such hangers-on in Bellevue Hospital.

Vaccination Stations.—The Board of Health has sent out announcements that arrangements for vaccinating children have been completed. One station is located at 68 and 78 Elm Street, where children can be vaccinated daily, except Sunday, between nine and four o'clock. The headquarters of the Department of Health, Sixth Avenue and Fifty-fifth Street, has also been designated as a vaccination station. Children will be received on the same days and between the same hours.

Colored Nurses.—A training school for nurses was established in connection with the Colored Home and Hospital in New York in 1898. It continues in successful operation and the managers are now able to supply colored nurses, who have been well trained in surgical, obstetrical and medical nursing. These nurses are specially adapted to care for people of their own race. There should be a large demand for them, especially in the Southern States.

Licensing Midwives.—The case reported during the past week of a death from septic peritonitis following abortion, criminally performed by Helen Kersten, a professional midwife, again calls attention to the necessity of proper supervision of midwives. The bill now waiting the Governor's signature, however, does not place the supervision in the hands of the proper authorities, and the members of the profession should make their opposition felt by addressing emphatic letters to the Governor.

Warning to Doctors.—A man of somewhat advanced years, introducing himself as Dr. Campbell and displaying credentials from McGill University at Montreal, is going the rounds of doctors' offices asking for alms. Dr. Joseph D.

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Bryant and others have been victimized and warn their professional brethren against the mendicant practitioner. A letter from the Registrar of McGill University elicits the information that they know no such man as Dr. Campbell.

Death of Dr. Gray.—Dr. Landon Carter Gray died at his home in New York Tuesday morning, May 8th. Dr. Gray had been suffering for several years from atheromatous arteries and chronic Bright's disease, complicated by heart-lesion. The disease assumed a more acute form about two months ago, confining the Doctor to his bed. He made no mention of his illness, however, and his interest and active work as Chairman of the Committee of Arrangements of the Triennial Medical Congress has been so energetic, that his failure to appear at the opening of the Congress to set the wheels in motion, and the announcement that it was due to illness, came with no little surprise, even to many of his intimate friends. His death occasions sincerest regret to his host of professional friends.

PHILADELPHIA.

Army Nurses.—The Memorial Association of Army Nurses of the Civil War is planning the erection of a monument to deceased members. An entertainment for the purpose of raising funds was recently given, none of those who arranged it having served less than three years during the war.

Health Report.—Deaths for the week ending May 5th were 517, a decrease of 101 from those of the previous week, and an increase of 40 over the corresponding week of last year. Contagious diseases: Diphtheria, 86 cases, 20 deaths; scarlet fever, 78 cases, 6 deaths; typhoid fever, 79 cases, 8 deaths. Influenza is waning, only 8 deaths being reported. One new case of smallpox appeared and the health officials are continually on the alert to prevent the spread of the disease.

Contagious Cattle Diseases.—A total sum of $28,000 has been paid to farmers of the State for tuberculous cattle killed during the past year. Unscrupulous dealers have endeavored to buy diseased cattle and ship them to States where inspection laws are not in force. Anthrax was reported in 12 counties of the State and several persons were infected by the diseased animals. One veterinarian lost his life from being inoculated while making a post-mortem examination of an animal.

Death from Starvation Cure.—The latest fad in medicine in the northeastern part of the city has met with a decided reverse in the death of one of its adherents. Reports of wonderful cures of obesity, dropsy, etc., by prolonged fasting have been plentiful during the past winter. A certain Mrs. Meyer fasted thirty-five days as a cure for chronic rheumatism. Tonicum and physiological salts" were given, but the leader of the starvation cult admits that they contain no food. After the cure of the rheumatism was in sight, as the leader says, the woman died of heart-disease. A physician who was summoned believes that death was due to starvation. The husband accepts the theory of heart-failure.

Academy of Surgery.—At the meeting of May 7th, Dr. Spellisy exhibited methods of head extension in Pott's disease and also a brace for lateral curvature. The latter appliance is very light, consisting of a pad, pressure on which is secured by springs. The apparatus is applied to keep the patient from sagging into the original position between intervals of treatment. It is not curative except as it prevents sagging which would tend to make the patient worse. He finds that the only way to keep patients in the proper position is to apply something of this kind to make them uncomfortable when they relax themselves and tend to assume the old position. He intends to add a brace in front in order to secure pressure upon the deformed ribs.

Dr. Wharton reported several cases of fracture of the leg and of the humerus, the head of the humerus being resected in one case of comminuted fracture. He stated that in the great majority of cases of fracture involving a joint in young persons it was better to cut down and expose the part in order to determine treatment. In discussion Dr. Allis stated that since the days of antisepsis the order of things has been reversed and now he almost dreads a simple fracture instead of a compound. When he can cut down upon a fracture he feels that he has command of it. He recommends cutting down upon fractures of the neck of the femur. In one case seen by him there was good union but the patient had no use of the joint and pain persisted. When the patient died autopsy showed a sharp fragment of bone projecting into the tissues. Laying the parts open at the time of fracture would have prevented this. Such treatment will often relieve pain even if a good limb cannot be secured.

Pathological Society.—At the meeting of April 26th the Society was addressed by Prof. Theobald Smith of Harvard University, his subject being "The Relations of Comparative Pathology to Biology and Medicine." The importance of comparative pathology lies in widening the horizon of the pathologist, the exploitation of human diseases leaving many questions unsolved. Comparative pathology is the study of disease in itself, not as to its cure, etc. The biologist uses facts thus obtained and is in turn succeeded by the human pathologist, the latter furnishing data for the clinician. Experiments determining the effects of diseases upon the higher animals should be the work of governments, and they can afford to maintain an expert for every plague. There should be an alliance between the Government and our higher institutions of learning. Pathology as a phase of biology could be taught in colleges which give courses preparatory to medicine. With animals the disease can be studied as it is

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continued in the same species and it can be studied at all stages, as the life of the animal can be terminated at any stage desired. The speaker strongly urges the establishment of institutes for the study of animal diseases.

CHICAGO.

Incineration of Garbage.—Within a week or so some of the city officials will make a trip to Toledo to inspect the garbage-crematory system employed in that city. Specifications for the construction of a plant in Chicago authorized by the City Council in its annual budget, for which $100,000 was set aside, are being prepared and the street officials desire to examine systems in other cities before closing any contracts for the establishment of incinerating plants here. It is the intention to secure a plant that will consume all the waste materials without the separation of garbage from ashes. The new plant will be built on the Bridewell grounds, and when placed in operation will dispose of the garbage in the immediate vicinity of the Bridewell and along the river, from which the material can be easily transported.

Public Health Matters.—Of contagious diseases the total number reported was 108 during the week ended April 28th, of which 61 were scarlet fever, 28 diphtheria, 10 measles, 9 smallpox. There were 9 per cent. fewer deaths reported during the week than the week previous, and the death-rate is slowly assuming normal proportions. Pneumonia, bronchitis and other affections, complicated by influenza during the past three or four months, show the greatest decrease, while the deaths reported from uncomplicated influenza fell from 18 during the week which ended April 21st to 9 last week.

Fallacies of Hypnotism.—At a meeting of the Physicians' Club, April 30th, Dr. S. Kuh presented a paper on this subject. In experimenting with any new remedy there are two questions which we are most anxious to have answered: (1) Is the new remedy as safe as, or safer than, other methods employed for the same purposes? (2) Is it more active in giving relief than other remedial agents? The author cites a number of cases in which hypnotism caused very serious, in some instances even fatal accidents and refutes the statement so frequently made that such accidents are due to improper use, ignorance or carelessness. He points out that hypnotism acts only by increasing suggestibility and that there are other methods of achieving this same end, that any exalted emotional condition, such as hope and fear, will do the same. He refers to a series of experiments made with suggestion in the waking state, for which purpose hypodermic injections of aqua destillata were used and which yielded most satisfactory results. His conclusions are that hypnotism is dangerous, that there are other and safer remedies known to us and that we ought to be particularly careful in its use, because the very cases which are most liable to be benefited by hypnotic suggestion—the neurotic patients—are also most easily and most seriously injured by its use.

Therapeutics of Hypnotism.—Harold N. Moyer discussed suggestion without hypnotism as a therapeutic agent. He said that any discussion of hypnotism must state the theories upon which it rests. Suggestion is no new discovery, nor a new force which had been created during the last few years, but it has existed ever since the nervous system has developed beyond that of a mere reflex mechanism. The older psychologists found no place for the experiments and observations of Braid and Mesmer. The metaphysical conception of the mind which denied reason to animals, made no study of diseased minds, and did not recognize the essential continuity of nervous phenomena, could find no place for observations such as these. The later psychology, which does not make these artificial distinctions and which broadens the term mind to include subconscious mental phenomena, offers an excellent explanation of the phenomena of suggestion. The subconscious mental phenomena may be easily reached by suggestion, if hypnosis is produced. Perhaps it is as readily and even more easily reached in many cases where the individual is awake. In the writer's judgment, hypnosis adds very little to the value of suggestion. In those cases in which it is readily produced, suggestion is quite as efficient in the waking state, and he is of the opinion that persons who are readily hypnotized are injured by the induction of hypnotism if it is frequently repeated. The known dangers of hypnosis should place it always in the hands of trained medical men.

Exophthalmic Goiter with Mitral Insufficiency.—At a meeting of the Chicago Medical Society, May 2d, Dr. Edward F. Wells presented several cases. The first was that of a man forty years of age, of negative personal history, who developed exophthalmic goiter eight years ago. The ordinary symptoms and signs are present, except tachycardia. There is cardiac enlargement and an apical systolic murmur with arrhythmia. Blood examination shows: specific gravity, 1063; hemoglobin, 103 per cent.; erythrocytes, 5,125,000; individual corpuscular richness in hemoglobin, 101 per cent.; leucocyts, 19,400—polymorphonuclear cells, 75½ per cent.; mononuclear cells, 20 per cent.; eosinophiles, 2½ per cent. In comment it was said that the mitral regurgitation in connection with, and probably as a consequence of exophthalmic goiter is uncommon. Attention was called to the bearing which an examination of the blood may have upon the diagnosis of organic from anemic cardiac murmurs. The sphygmograms presented were asserted to be indicative of mitral regurgitation.

Pulmonary Tuberculosis; New Diagnostic Sign.—The patient, a male, has been under observation four years, during which time he has had

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four attacks of hemoptysis. Only recently have distinctive physical signs and bacilli in the sputum been manifest. Two weeks ago, and for a week, the evening temperature reached 99.8° F., being normal since. Arterial tension is reduced. Each of the thumb-nails shows five shallow transverse depressions. This sign was present upon the thumb- and finger-nails of two other patients shown. The speaker said that his attention was called to this sign several months ago and he has observed it in a very considerable number of cases since. It was offered as one of the minor contributory diagnostic signs and derives its importance as indicating short and more or less regularly recurrent periods of interference of nutrition, due to febrile attacks. The depressions are usually very shallow. They do not denote the presence of tuberculosis but are present in this affection and in the manner described.

Chlorosis; Method of Blood Examination.—The speaker laid particular stress upon the care required in the management of chlorosis and its tendency to relapse. He is of the opinion that some leading recent authors have, probably unwittingly, minimized these features. In the routine examination of the blood in private practice the following procedures were advocated: The lobe of the ear is rubbed with chloroform and pricked with a Beers' cataract knife; the knife is dipped into the benzole-chloroform mixture and the drop of blood is taken up with the back of the blade from which it is dropped into the above mixture by gently striking the back of the knife on the edge of the urinometer jar; two cover-glasses are now spread and a drop of blood on another cover-glass is put upon a slide; the large tube of the Thoma-Zeiss counter is now filled; a hematocrit-tube is next filled and the flow of blood checked (by the patient) by pressure. The hematocrit is now resolved and the volume of red corpuscles and approximate number estimated; next the Thoma-Zeiss cell is filled and placed upon the stage for settling; next benzole and chloroform are alternately added to the stock mixture (specific gravity 1050), with stirring until the drop of blood and mixture are in equilibrium and take specific gravity; utilize a drop of serum from the hematocrit in the same manner; next count the white corpuscles; next examine the slide of fresh blood for size and character of erythrocytes, roleaux formation, etc.; now fix the dried cover-glass smears and stain, with Ehrlich's tri-acid stain and one with eosine and hematoxylin and examine at once or at leisure. These procedures give information as to the specific gravity of the blood and of the serum; the percentage of hemaglobin, using Hammerschlag's table; the volume and appropriate number of erythrocytes, together with their size, character and tinctorial qualities; the individual richness of the cells in hemaglobin and, lastly, the number, staining qualities and differential count of the white corpuscles. The entire amount of time occupied is not too great to be expended by the busy physician, and most of it may be delegated to an assistant. The extent and character of the information to be gained is of real value.

The American Gynecological Society.—At the recent meeting of the Society in Washington, D. C., the following officers were elected for the ensuing year: President, Ely Van de Warker, Syracuse, N. Y.; vice-presidents, Charles Jewett, Brooklyn, and Richard B. Maury, Memphis, Tenn.; treasurer, J. Montgomery Baldy, Philadelphia; secretary, J. Riddle Goffe, New York; members of the council, Matthew D. Mann, Buffalo; William R. Pryor, New York; Seth C. Gordon, Portland; Joseph Taber Johnson, Washington.

GENERAL.

Health of Boer Prisoners.—The English Under-Secretary for War has made the following statement regarding the condition of the Boer prisoners: In all 3899 prisoners have been confined on board ship, of whom 9 have died; there have been altogether 120 cases of measles, 75 of typhoid fever, and about 30 of other ailments.

Osteopathy Not Illegal.—An osteopathist in Oil City, Pa., has been acquitted of the charge of illegally practising medicine. Judge Criswell decided that present laws have no bearing on this process of healing. The decision is regarded as an important one in establishing the legal status of osteopathy.

Plumbers Seek to Lower Death-rate.—The Journeymen Plumbers' Association wishes to secure improved sanitation in Philadelphia and has asked the aid of physicians in this effort. The death-rate from diphtheria is stated to be higher than in any other city in the country. A plea is made for intelligent, educated men as plumbers in order that the above ideas may be carried out.

Hospital Ship "Maine."—The "Maine" sailed from England for South Africa May 1st. The women nurses, formerly assigned to her, have been replaced by men. No charges are made against the women, either of incompetency or of any other nature; the change is due entirely to economic reasons. Women take up more room than men nurses, and are found physically unable to carry patients up and down from the decks, as is most desirable in passing through the tropics. It is evidently the intention to utilize the "Maine" as a transport hospital ship.

Better Ventilation in Theaters.—The City Council of Chicago will soon investigate the complaints that have been lodged with the Health Department by the Actors' Society of New York against the sanitary conditions existing in a number of the cheap theaters in the former city. The requests for investigation come from persons who have been playing in them. Sanitary Inspector Young has received complaints also of the unhealthful condition of the air in theaters, especially where there are continuous performances.

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It is a crying shame that theaters are not so constructed that they can receive the sunlight, which is the best preventive of germ-growth.

American Surgical Association.—The following officers were elected for the ensuing year: President, Dr. Roswell P. Park, of Buffalo; vice-presidents, Dr. J. J. Owens, of Chicago, and Dr. C. Parkhill, of Denver; secretary, Dr. H. L. Burrell, of Boston; treasurer, Dr. G. R. Fowler, of New York; recorder, Dr. De Forest Willard, of Philadelphia. The next annual meeting will be held in Baltimore, May 7, 8 and 9, 1901. The following new members were elected: Drs. Bevan, Harris and Ochsener of Chicago, Dr. McDonald of Albany, Dr. Brewer of New York, and Drs. Oliver and Taylor of Philadelphia.

Physicians Going to Paris.—Under the auspices of the Illinois Medical Association, about three hundred doctors and their families from Illinois, Iowa and Missouri, will visit the Paris exposition in a body. It is expected that there will be at least five hundred in the party when they sail from New York on June 30th. The excursion was organized for pleasure, but many of the leading medical institutions and hospitals on the Continent will be visited.

Aseptic Barber-Shops.—The Boston Board of Health has issued regulations providing definite rules for the management of barber-shops. These rules provide that mug, shaving-brush and razor shall be sterilized after each separate use by immersion in boiling water. The use of powder-puffs is prohibited, and sponges likewise.

The Army Canteen.—By order of the French Minister of War, the army canteen, as it exists in the French army, has been greatly curtailed in its functions. The habitual taking of brandy, absinthe, vermouth, and other spirits, under the guise of *apéritifs* (appetizers) is held responsible for much of the morbid irritability and general demoralization of the rank and file of the army. Henceforth only light wine, beer and cider will be dispensed to the French army canteens.

Funds for the Congress.—At a meeting of the American National Committee of the XIIIth International Medical Congress, held at the Cosmos Club, Washington, May 2d, the secretary reported that already about two hundred American physicians had joined the Congress. It was unanimously voted that the President of the American Medico-Psychological Association be added to the Committee; and farther voted that the organizations the presidents of which compose the Committee be requested to contribute to the expenses of said Committee.

American Therapeutic Society.—In pursuance of a call for an American Therapeutic Society issued by the Therapeutic Society of the District of Columbia, a meeting was held in Washington, May 1, 1900. The organization was effected and much enthusiasm displayed. The following were chosen as officers of the new society which expects to become affiliated with the Congress of American Physicians and Surgeons which meets in Washington every three years. The meetings of the American Therapeutic Society will be held annually, the next meeting being in Washington, D. C., May 7, 1901.

The Plague.—No further news of the spread of the plague has been received from Hong Kong, Japan, Mauritius, or Australia. The most serious condition of the last named place consists in the fact that plague-infected rats have been found in the wharves of Melbourne, Brisbane and Auckland (New Zealand). The advance of the epidemic has not been stayed in India, and the sad news has recently been received from Bombay, May 5th, that a serious outbreak of cholera has occurred among the natives at the famine Relief Works; the deaths average 50 per day. Two hundred of the natives have become panic-stricken and fled from the town.

The Railroad as an Engine of Sanitation.—It is announced that the Sultan has consented to the building of a railway and telegraph line straight to Mecca. There is much more in this than a mere opportunity to satisfy globe-trotting curiosity. The *New York Times*, in remarking upon this, says: "A railroad to Mecca means the penetration of modern ideas to a region where they are woefully needed, and where their absence has constituted a standing menace to the rest of the world. For centuries the Holy City has been constantly receiving and distributing fatal infections on a wholesale scale. The civilized nations have hesitated to interfere effectively with the annual pilgrimages, and after the pilgrims started into the interior they were left entirely to their own devices, which of course have never dealt with anything so irreligious as sanitation. A railroad in such a locality must mean some measure of reform."

The Cuban Census.—The census which has recently been taken under the War Department in anticipation of the approaching elections is now available. From it we learn that the total population of Cuba is 1,572,797; among these there are 815,205 males and 757,592 females; there are 447,372 white males, 462,926 white females of native birth; the foreign whites number 115,760 males and 26,452 females; there are 111,892 male negroes and 122,740 female negroes; the mixed races number 125,500 males and 145,305 females; there are 14,694 male and 163 female Chinese. Of the total population of the Island, 1,108,709 persons are set down as single, 246,351 as married, while 131,787 live together by mutual consent. According to citizenship, over 20,000 are Spanish and more than 1,000,000 are native Cubans. It appears that males are in excess in the total population, except in San Diego, although the female whites outnumber the male whites, except in Pinar del Rio. Only 15.7 of the adults are married. Nearly nine-tenths of the inhabitants were born in Cuba. The officials are gratified to find that the native Cubans constitute so large a proportion of the population, that the

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whites greatly outnumber the blacks, and that a large proportion of the native population can read and write.

Artificial Fertilization of Eggs.—Prof. Loeb of the University of Chicago, who attracted considerable attention last summer by his experiments in the artificial fertilization of the eggs of sea-urchins and the production of larvæ after an immersion of two hours in a solution of chloride of magnesium and sea water, has conducted a series of additional experiments during the past winter which corroborate the results of the original investigation. In the later experiments the sea water was sterilized, and the most elaborate precautions adopted in cleaning hands, instruments, and specimens before removing the eggs. If a male animal was encountered in dissection, it was removed, and the instruments were not employed again until they had been thoroughly sterilized. The five ovaries of the female were on removal placed in fresh water, and then put into the sea water, one part of the eggs being placed in sterilized sea water as a control experiment, while the remainder were put in the mixture of water and the magnesium chloride solution. The eggs were left in this mixture for an hour, after which they were placed in sterilized sea water, as many as 25 per cent. developing into blastulæ, and swimming about the next day. The other part of the eggs, however, did not even segment, and the most careful search failed to reveal such a change on the part of any. It was found necessary to use the solution in equal parts and leave the eggs for from one to two hours, in order to secure the segmentation. Prof. Loeb considers that the spermatozoa are entirely eliminated in these experiments, and that his results are accomplished entirely by artificial parthenogenesis.

TRANSACTIONS OF FOREIGN SOCIETIES.

German.

TWENTY-NINTH CONGRESS OF THE GERMAN SOCIETY OF SURGERY—TREATMENT OF INOPERABLE MALIGNANT TUMORS—CARCINOMA OF THE RECTUM—IMPROVEMENT IN THE TECHNIC OF RESECTION AND AMPUTATION OF THE RECTUM—PHYSIOLOGIC CAUSE OF CHILDBIRTH.

THE twenty-ninth Congress of the German Surgical Society was held in Berlin April 18th to 21st. The president, V. BERGMANN, in his address of welcome, called attention to the development of the treatment of malignant tumors which the century just closed has witnessed. The first day's session was given up to a discussion of malignant growths.

CZERNY spoke of the treatment of inoperable tumors. According to the best statistics 75 per cent. of all surgical carcinomata are inoperable, and according to Dührssen a tenth of the patients operated on for cancer of the uterus are cured. This is a sad outlook, and Czerny said that after much thought upon the subject he had come to the conclusion that it is better to allow a patient with certainly or probably inoperable cancer to die in the expectation of getting well, than it is to subject him to an operation which is sure to be followed in a short time by a recurrence and consequent loss of all hope. Confidence in the doctor is of the greatest importance to such a patient. When he loses it, he is apt to seek a quack. In the treatment of carcinoma three things are especially to be avoided, hemorrhage, gangrene and pain. Many times the ligation of an afferent artery may be of service, *e. g.*, in carcinoma of the tongue. Curetting and cauterization by heat may do good service; or scraping and chemical cauterization, preferably by means of gauze wet with a 20-50 per cent. solution of zinc chloride and used to tampon the cavity may be followed by healing. For surgical cancers an eating paste may be employed. The speaker mentioned an instance in which a carcinoma of the rectum, held to be inoperable, had become movable after the application of a chloride of zinc paste, so that it could be extirpated. Numerous cases were cited in which treatment of curetting, excision and the application of gauze wet with a 30 per cent. solution of zinc chloride had succeeded in effecting a cure of cancerous tumors pronounced to be inoperable by good surgeons. Medicine should also be given internally to satisfy the patient if for no other reason. A rational treatment of cancer can scarcely be expected before some definite knowledge of its nature is obtained. The erection of special hospitals for the treatment of cancer patients, as has already been carried out in New York and London, was advocated.

KRÖNLEIN said that the German plan of treating cancer of the rectum has found little acceptance outside of Germany for three reasons, *viz.*, the bad final results; the high mortality of the operation, and the bad functional results in so-called cured cases. From the statistics of eleven clinics he collected 881 cases of cancer of the rectum operated on in the past two decades. One-fifth of these patients died from the operation, one-half of the deaths being due to sepsis. Taking three years as a minimum time limit of freedom from recurrence, Iversen found that one-seventh of all patients operated on were cured. There are, however, well-known instances in which recurrence has appeared at a later period than three years after operation. The indications for operation have been too widely extended. When neighboring organs are involved, such as the bladder or ureters, only harm is done by a radical operation. In the eyes of a patient the question of continence of feces is even more important than the mortality. A healthy anus should always be retained in whole or in part, even although only a narrow circle of mucous membrane remains to connect it with the upper bowel. Krönlein has never made a sacral artificial anus, but has always united the cut ends of the bowel and has obtained thereby, in

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39 cases, complete continence in 30 per cent., relative continence in 60 per cent., and absolute incontinence in 10 per cent. In conclusion Krönlein said that extirpation is the sovereign method in the operative treatment of cancer of the rectum; that recovery may be expected in four-fifths of the cases; that a radical cure may be expected in one-seventh of the cases; that it is most important to preserve the lowest part of the rectum in the interests of continence; that the results of total resection of the rectum with the anus are inferior; that the choice of the method of operation depends on the particular case, but that plastic methods are growing in favor.

REHN spoke of improvements in the technic of resection and amputation of the rectum. Since it is difficult to improve early diagnosis of this disease, which often gives no symptoms until it is well advanced, it is especially important that the technic of operation should be most perfect. The sacral method gives a good exposure and is relatively easy to follow; but it is dangerous, it leaves a wound which is not easy to treat, while the preservation of the sphincter ani is often of no value. On account of the disposition of the blood and lymph-vessels—the latter of which are placed entirely on the sides of the rectum—the sacral route is not to be advised. The best method is one which permits a high dissection and easy control of the hemorrhage at the same time that it preserves the fascia and muscular structure of the rectum and avoids infection. Carcinomata which have grown beyond the fascial layer are inoperable. In men the perineal method is far superior to the popular sacral one. If there are no adhesions, dissection is carried up as high as possible through the anterior incision. This wound is then tamponed and the dissection completed posteriorly. A considerable portion of healthy gut above the tumor should be resected with the latter, and the upper cut end of the bowel should be brought down and sutured in position. The subsequent treatment is far simpler than by the sacral method, and the discharge of secretions from the wound is better carried out. Rehn once resected in this manner eight inches of bowel and obtained a satisfactory result. In women the operation is still easier of performance. A simple incision through the vagina exposes well the field of operation. Rehn has operated thirteen times with only one fatality, and in this case there was no retention of secretion in the wound. Movable tumors are easily handled from below. If the lymph-glands are affected it is necessary to open the abdomen. Experience with this combined operation is still limited. The perineal method preserves to the greatest possible extent the normal relations of the parts. An artificial anus will rarely be required—only in an extreme case as a temporary measure. A valid objection to the sacral method is the loss of sphincteric action. Gangrene may follow amputation of the gut high up, because of lack of nutrition due to too great tension when the gut is brought down and sutured.

At the Imperio-Royal Society of Physicians in Vienna, April 6th, J. THENEN explained the onset of labor in childbirth in the following manner: The fetal circulation is complete in itself. The placenta receives all of its nourishment from it, and that, too, only after the blood has passed through the embryo. The greater the embyro becomes, the less nutritious is the blood which leaves it. Accordingly, the growth of the placenta ceases after the embryo has reached a certain size (thirty-sixth week of pregnancy), and from that time on the degeneration in its structure begins, evidences of which are visible in every placenta at birth. The placental labules begin to loosen their hold on the uterus. The specific influence which the living impregnated ovum has exercised on the female organism, and especially on the uterus, and by reason of which the uterus and ovum have lived as one organ, disappears, and the uterus resumes its normal functions and forces out the foreign body in its cavity. Thus there is no new irritation introduced. The cause of the birth is not to be looked for in uterine changes, or changes in the membranes, hemorrhages, fever, etc., but in the cessation of the influences which pregnancy exerted upon the uterus and which for a time held in abeyance the normal uterine functions. This theory explains not only the origin of labor but the typical duration of pregnancy.

SOCIETY PROCEEDINGS.

ASSOCIATION OF AMERICAN PHYSICIANS.

Fifteenth Annual Meeting, Held at Washington, D. C., May 1, 2 and 3, 1900.

(Continued from page 721.)

THIRD DAY—MAY 3D.

Adult Filaria Specimens.—Dr. W. T. Councilman of Boston presented specimens of adult filaria from a patient who lived for twelve years in the Barbadoes. Chyluria had not been noticed and anemia was not present. An abscess developed in one of the testicles from which came a yellowish discharge. In the discharge filariæ were found. The testicle was removed and on section coiled masses of worms could be easily picked out. A characteristic group was shown consisting of six individuals, four females and two males. When the testicle was placed in warm salt solution for some time, some of the living worms crawled out to the surface and could be picked off. Careful studies of the parasites were made and sketches of various anatomical features drawn. Very striking features were the head and the relations between the uterus and the digestive tract. The mouth consists of a dimple shaped not unlike a maltese cross. The uterus and the intestine lie in a coil each wrapped around the other.

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The blood of a brother of the patient when examined during the day showed nothing abnormal. Examined during the night it showed numerous active filariæ. The brother also lived for some years in Barbadoes, but has absolutely no symptoms nor inconvenience from the presence of the worm and says he has enjoyed excellent health for years.

Rashes and Diphtheria Serum.—Dr. William H. Park of New York said that in fifteen per cent. of the cases in which diphtheria serum is used cutaneous rashes, urticaria, erythema and the like and occasionally some joint symptoms develop. These are not severe and never seem to leave any serious sequelæ. It would be extremely helpful, however, to the cause of antitoxic treatment if these rashes could be done away with. There is, of course, a large personal element in the patient's reaction which causes the development of the cutaneous symptoms. This personal idiosyncrasy is extremely capricious and occurs in very differently constituted people. Nothing that the manufacturers of antitoxin have so far done has succeeded in modifying the tendency to the production of rashes. Filtration, as anyone who has experience in the matter knows, has absolutely no effect. A fine filter requires a great deal of care in its use and yet seems not to do the least good in removing the source of the cutaneous symptoms. Spronk suggested that the serum should be heated to 58°C for twenty minutes. This method of treating serum was tried in New York, but seems to produce no effect. Twenty cases were treated with serum that had been heated and twenty cases with unheated serum from the same animal. No difference in the number of rashes that occurred could be noticed.

Improvement of Serum.—The only successful method for the improvement of the quality of the serum so far found is to select the animals and the bleedings in order to eliminate undesirable samples of serum. It has often been noted that the serum of certain horses is much more liable to produce rashes than is that of others. After trial such horses are now no longer used. It has also been noted that the blood taken at certain times contains more irritant properties than at others. There is nothing in the appearance of the serum, or any quality that can be determined by chemical tests which will show that the serum is in a particular case likely to be irritant. This can only be determined by actual trial. Specimens of each bleeding are now given to inspectors who use the serum on cases reported by the Department of Charities to the Board of Health for treatment. The number of rashes found under the use of any particular serum is noted and where the percentage is high that serum is not put on the market for general use. Under this system of inspection a serum has been obtained with which sixty-five injections were given at a hospital and but two rashes resulted. As the percentage of cutaneous symptoms from some sera runs as high as thirty per cent., it can be seen that this is a very decided improvement.

Globulin in Antitoxin.—It has long been known that in the globulin that can be precipitated from antitoxic serum most of the antitoxic properties of the serum are contained. Either the globulin itself holds the antitoxin or it is mechanically precipitated when the globulin is thrown down. Observations in New York would seem to show that the precipitation of the antitoxin at the same time with the globulin is not merely a mechanical process. The globulin in serum and its antitoxic properties bear a certain relation to each other. Recently in an untreated horse in the laboratory of the New York Board of Health the serum was found to contain three units of antitoxin, which is a remarkably high amount. The serum contained also three and two-tenths per cent. of globulin, which is considerably more than normal. At the end of several months of treatment and at a time when the blood contained twelve hundred units of antitoxin there had been an enormous increase in the globulin up to eight per cent. Later when the antitoxic properties were somewhat exhausted, the units of antitoxin value and the amount of globulin both dropped. Serum globulin has been obtained reasonably pure from diphtheria serum and then has been dissolved in water in the hope of thus eliminating the objectionable properties of antitoxin. It has been used in twenty-four cases in twenty-three of which recovery took place. This globulin antitoxin has, however, proved rather irritating. Slight abscesses formed at the point of inoculation in several cases. Despite the removal of the other albuminous substances contained in the serum, cutaneous symptoms sometimes occurred. The problem, then, of the production of a non-irritating serum is not yet solved, although a step in the right direction seems to have been taken.

Dr. McPhedran of Toronto said that the question of the occurrence of cutaneous rashes was largely a matter of personal idiosyncrasy. Recently in a family he had occasion to give immunizing injections of serum to a mother and child and the child's nurse. Only very small amounts of serum were employed. Neither the mother nor child developed any symptoms. In the nurse there occurred an urticaria with some fever and joint symptoms and general indisposition which lasted for ten days.

Dr. Meltzer of New York suggested that perhaps one serum which produced symptoms would protect against the development of any further symptoms from the same sort of serum.

Dr. William H. Park said that he has seen repeated rashes occur in certain cases where repetitions of the same serum were given. It is doubtful whether the repetition of the injection brought out the rashes after the first one, or whether they would have occurred off and on for some time as they do sometimes after a single injection of serum. This experience, however, would seem to hint that the serum is not protective. Dr. Park has seen in Boston the employ-

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ment of large injections of antitoxin where the antitoxic strength was not high and where consequently much larger doses of serum than usual had to be employed. The cutaneous symptoms were neither more frequent nor more severe although the joint symptoms seemed to give more trouble.

Varieties of the Diphtheria Bacillus.—Dr. F. F. Westbrook of Minneapolis detailed some work on the varieties of the diphtheria bacillus which has been done by Drs. Wilson and McDaniel and himself for the Minnesota Board of Health. He said that the great variability of the diphtheria bacillus makes it important for us to have some definite classification. The old division into typical and atypical diphtheria bacilli is no longer of any use. Three great families may be admitted. In the first the material of the bacilli stains in granules. Usually these granules are at the poles while the staining of the intermediate body of the bacillus varies in intensity. Certain branched forms of the diphtheria bacilli seem to come under this group. The second group of bacilli consists of the barred forms. In these it looks as if cross-sections of the bacilli were removed. Sometimes the intermediate portions are distinctly stained, but are of a much lighter blue than the other parts. The size of the light areas of the bacilli are very different. This gives rise to a variety of types. The third group consists of the solid color forms, in which the whole bacillus takes the stain rather uniformly. Under this group come the diplobacilli although these were formerly classed as pseudobacilli. A specimen from any throat may contain a number of these groups, although often some one group either predominates or exists exclusively. The progress from one group to another may be noticed in the throats of patients, but this progress is not typical of the course of the disease, and tells nothing as to the prognosis of the case.

In the discussion Dr. Abbott said that the normal morphology of the diphtheria bacillus is not known. This makes it very difficult to interpret the variety of forms which are found. If we alter the environment on which the bacillus grows we get very different types. Simple acidification of the medium makes a great change in the appearance of the bacilli. The morphology of the diphtheria bacillus is much more complicated now than it was eight years ago when Loeffler's blood-serum was used as a culture medium. The coagulation of the medium makes a distinct difference in the appearance of the bacilli. The solid color group would seem to consist of involution forms. A pathological process has gone on in the microbes themselves, making them much more susceptible to the stain.

Diphtheria Bacillus in Healthy Throats.—There is no doubt now that genuine diphtheria bacilli may occur and exist for a good while in healthy throats. These bacilli are virulent, but the patient is not at the moment susceptible to infection. Often in these cases a mild injection of the throat exists, indicating that the superficial layer of tissue is somewhat affected by the presence of the diphtheria bacilli. It is these very mild cases which are important to public health and which create such a difficult problem for health authorities to solve. Undoubtedly these cases serve to spread the disease. They have so few symptoms, however, in some cases none, that it is a hardship to prevent them from going about their business. This prevention, however, is for the public good and should be insisted on.

Dr. Park said that he did not think that the members of the third group, the solid color forms of the diphtheria bacilli ever occur in original cultures. The diplococcus forms are not considered by the New York Board of Health to be true diphtheria. Where bacilli resembling diphtheria bacilli occur in healthy throats, the question always arises, are they virulent? The only way to decide is to inoculate guinea-pigs and wait four days to see whether infection takes place. Where diphtheria bacilli occur in the throat it is extremely difficult to say whether the person shall be allowed to go about freely or not. Sometimes it constitutes a most discomforting problem. There seems to be no doubt that virulent bacilli can exist in healthy throats without producing any effect. Patients are not susceptible to a given moment and their tissues are capable of resistance. The present practice, at present so common, of immunizing children for measles is founded on this fact. Healthy children resist the invasion of the diphtheria bacilli; when weakened by measles, however, they succumb to it. As in institutions the diphtheria bacilli seem to exist in most children's throats, there arises the necessity for immunizing against diphtheria when they are weakened by a disease that affects the throat tissues.

Dr. Meltzer said that the appearance in certain groups of the diphtheria bacilli, especially in the barred forms, resemble those that are caused in bacteria by plasmolysis. This is a phenomenon due to variations of osmotic pressure, the liquids in which the cellular elements are contained being of very different specific gravity to those existing within the cell-wall of the bacteria.

Dr. Westbrook, in closing the discussion, said that the virulence of diphtheria bacilli for guinea-pigs by no means necessarily implies their virulence for human beings. It is true this is the only way in which to decide as to virulence, but it is fallacious.

Addison's Disease Treated with Suprarenal Extract.—Dr. W. W. Johnston of Washington presented a patient suffering from Addison's disease. The young man, who was twenty years of age, presented himself in the fall of 1897 suffering from extreme weakness and with beginning bronzing of the skin. He was ill for some time and grew worse as the colder weather approached. He was in bed for some months. In the spring-time he improved and enjoyed reasonably good health during the summer. In the fall of 1898 he again became weak, pigmentation in-

creased, and he was troubled with vomiting and diarrhea. He improved somewhat and in October, 1899 he had another aggravation of his malady. Each relapse was worse than the preceding one and made his general condition more serious. Under the rest treatment he improved rapidly and gained twenty pounds in weight. The administration of suprarenal extract seemed to be of benefit. Since then he has continuously gained in strength. His pigmentation has not decreased. His blood has four and one-half million red cells and is otherwise normal. He has some enlargement of the liver, but there is no glycosuria. He has continually a subnormal temperature. The pigmentation occurs in mole-like spots, but there is also a general bronzing of the skin. His extremeties especially are very dark.

Of the forty-three cases of Addison's disease in medical literature that have been treated with suprarenal extract, thirteen have improved. In this case it has not been necessary to increase the doses of suprarenal extract, but he has gone on improving on the original dose. His arterial tension increased very markedly at the beginning of the treatment and his heart acted better. This improvement has continued.

Venous Thrombosis in Cardiac Disease.—Dr. William H. Welch of Baltimore said that he has now seen four cases of this complication, three of them at the autopsy table. In the text-books peripheral venous thrombosis is not treated of as a complication of cardiac disease. His personal experience would seem to point to the fact, however, that a sufficient number of such cases occur to make the affection of importance clinically. Dr. Welch's first case was a negress, seventeen years of age, suffering from aortic and mitral insufficiency. She developed suddenly a swelling of the neck and a painful, hard edema of the left arm. The veins of the arm and neck could be felt as cords. The pulse became intermittent and the patient died. At the autopsy complete pericardial obliteration was found, while a large thrombus existed in the left innominate, the jugular, the subclavian and the axillary vein. The oldest part of the thrombus was somewhat greyish in color and occupied the bulb of the jugular vein. Cultures were made from various parts of the body and all of them were sterile except those made from the thrombus. Here the streptococcus was found in pure culture. The cause of the thrombosis was evidently this infectious agent.

The second case terminated in recovery. Mitral stenosis existed, but the compensation was not very much disturbed. The left ankle became swollen and tender and then the left side of the neck swelled. A temperature of 100° F. developed and the pulse-rate went up to 124. The swelling of the neck increased and the jugulars stood out as hard, sensitive cords. A week later the left arm became swollen and a condition of hard, tender edema developed. This was evidently due to genuine phlegmasia alba dolens and was not the soft edema of heart-disease. After two months the collateral circulation was restored and the patient recovered. During the course of the case embolism of the popliteal artery took place, but gangrene did not set in and the collateral circulation was also restored here. In the third case edema of both arms developed, but the left arm was harder, larger, whiter, and more tender than the right. The left brachial, axillary and subclavian veins were thrombosed. In the fourth case the left femoral vein was thrombosed. This case was evidently, however, of a very different category to those in which thrombosis occurs in the arm and neck. In the literature there are twenty-seven cases of peripheral thrombosis in heart-disease. Twenty-three involve the head and neck and the arm, while only four occurred in the lower extremity. It is possible, of course, that thrombosis in the lower extremity might be overlooked because of edema from insufficient elimination of urine due to the heart-disease. It would seem, however, that other reasons besides this are at work. Seventeen of the twenty-seven patients were females. The affection is almost limited to mitral lesions, especially to stenosis of the mitral orifice, and this form of endocarditis is very common in women. The youngest patient was nine years of age and more than one-half the cases were under thirty years of age, so that it is distinctly an affection of early life. In twenty cases mitral disease existed; in one relative insufficiency of the mitral existed in connection with aortic disease. These cases are sometimes spoken of as rheumatic phlebitis, but there seems no reason for this name since no typical symptoms of rheumatism occur. There is a great predominance of the complication on the left side. In only two cases did it occur on the right side alone. It was bilateral more commonly. By far the majority of the cases were exclusively on the left side.

The first symptom is swelling or pain, at times one, at times the other. Very often the complication is missed entirely because the constitutional symptoms are masked by the bad condition of the heart and the symptoms it occasions. There is nearly always a slight rise of temperature. In a case that was studied very carefully by Dr. Helen Baldwin the buccal temperature was six degrees lower than the rectal temperature, which was slightly above normal. As a rule, death takes place because of the heart-disease rather than from the presence of the thrombus. The reason for the greater frequency of thrombus on the left side is that the left innominate is longer, is more oblique, and there is more obstruction by valves on this side of the venous circulation. Recklinghausen has called attention to the fact that a whirling motion in the blood favors thrombosis. A vertical movement occurs especially in the bulb of the internal jugular. Imperfect valves often exist in this vein and these add to the cross current. Besides there is often systolic reflex in these cases of mitral stenosis and insufficiency. Something more than these mechanical factors, however, is needed in order to precipi-

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tate thrombosis. This added factor is an infectious agent.

In the discussion Dr. Kinnicutt of New York said that edema of the left arm and swelling of the neck and side of face with cord-like induration of the veins in these regions were the cardinal symptoms in a case which he saw some months ago. The patient was restored to health although the collateral circulation was not completely developed. Just before leaving New York he was again called to see the patient and found that thrombosis had occurred in the veins of the left lower extremity. Serious constitutional symptoms then developed and threatened a fatal termination.

Dr. Cary of Buffalo said that another important factor that causes the thrombosis to occur on the left side rather than on the right is the fact that the dilated heart presses upon the veins upon this side more than on the right and so adds another mechanical factor to those mentioned by Dr. Welch.

In closing the discussion Dr. Welch read from his paper a passage omitted in the previous reading in which he mentioned the fact that in cases of mitral stenosis the dilated left auricle presses upon the veins on this side and so adds to the liability to thrombosis. It also presses upon the artery, causing the left radial pulse to be less than that on the right, one form of the pulsus differens of the clinicians.

The New Tissue in Cirrhosis.—Dr. Simon Flexner of Philadelphia demonstrated specimens of cirrhosis of the liver treated by Weigert's stain for elastica and by the digestion method in order to determine what the new connective tissue in a cirrhotic liver is composed of. A student in Ziegler's laboratory recently announced that the new connective tissue in cirrhosis is mainly composed of elastica. This seems true if staining methods alone are depended on. By exposing the tissue to digestion by pancreatin all the elastica is removed. A white fibrous tissue with a reticulum is, however, left. The opposite method was also tried, *viz.*, that of removing the white fibrous tissue by caustic potash. A certain amount of success was attained. The digestion process showed that the new tissue in hypertrophic and atrophic cirrhosis are very differently composed. The cirrhoses have been unfortunately named. In biliary cirrhosis, for instance, the connective tissue forms around the blood-vessels while from the name it would be expected to form around the biliary ducts.

Cystoma of the Pancreas.—Dr. Fitz of Boston reported a case of cystoma of the pancreas which had been diagnosed and removed by surgical operation. There are only seven cases in the literature in which the diagnosis has been made. This tumor differs somewhat from a retention cyst of the pancreas although it produces the same clinical symptoms. The structure of the tumor seems to suggest that it originates from a proliferation of the acini of the glands and a dilatation of the smaller ducts.

Dr. J. H. Musser's paper on "Subpectoral Abscess" was read by title, as was also Dr. D. D. Stewart's paper on "Stone in the Kidney and Conditions Simulating It."

Aneurismal Rupture into Superior Vena Cava.—Dr. Alfred Stengel of Philadelphia reported a case of aneurism of the aorta which ruptured into the superior vena cava, the condition being recognized during life. The patient was a workman, thirty years of age, who felt something give way in his chest, after which an intense sense of oppression developed. Great swelling of the neck and upper part of the body down as far as the waist line ensued. The lower part of the body was perfectly normal. Great cyanosis also developed. Death took place only after twenty-four days. It is surprising how long the duration of such cases is. One patient was alive seven months after the condition developed. In another case recovery seems to have taken place. The great lividity would tempt an attending medical man to do venesection. It is probable, however, that venesection would do more harm than good. It prevents the equalization of pressure by the venous blood which would cause clotting in the aneurism itself and so lead to the only hope of relief from the condition.

Cardiac Dilatation.—Dr. Beverley Robinson of New York reported some minor forms of cardiac dilatation, especially those which occur in chlorotic girls just past puberty. For these cardiac stimulants are necessary, but general roborant treatment is more needed and produces more lasting effects. Very often there is excessive menstruation, which should be controlled by ergot or hot douches. Not infrequently in these cases there is some albumin in the urine and slight febrile temperature develops. In one case a patient was told that nephritis existed and she was advised to seek another and more equable climate. The fact of the matter is that the heart in these cases is not able to keep the blood-tension in the kidney high enough to cause the excretion of normal urine. The indication is for treatment of the heart and not of the kidneys.

Graves' Disease Without Exophthalmic Goiter.—Dr. W. H. Thomson of New York reported a number of cases of Graves' disease in which tremor, some constipation or diarrhea, and tachycardia existed, yet without goiter or prominent eyeballs. The speaker discussed the symptoms of sixty-six cases seen in private and consultant practice. Of these thirty-four had both the enlarged thyroid and exophthalmos. Thirty-two of them had neither the exophthalmos nor the goiter. The symptoms in these two classes of cases are so similar that Dr. Thomson considers them to be practically a demonstration that the thyroid gland and its affections are not of the essence of Graves' disease at all. He suggested that the pathology of the disease will have to be looked for elsewhere.

The paper of Dr. D. D. Stewart of Philadelphia, entitled "A Case of Acute Graves' Disease without Exophthalmos or Goiter," was not read.

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In the discussion Dr. McPhedran of Toronto said that he has seen cases of Graves' disease in which there was no projection of the eyes beyond the normal, but in which, despite the presence of considerable emaciation, the eyes had lost none of their normal prominence, that is, while there was not absolute, there was relative, projection of the eyeballs.

Dr. Thomson said that an enlargement of the palpebral fissure without striking projection of the eyes was not an unusual symptom in Graves' disease, and it sometimes is a substitute for the exophthalmos.

Perichondritis of the Larynx in Typhoid.—Dr. M. H. Fussell of Philadelphia said that this complication is very rare, occurring only in a little more than one per cent. of the cases. He has seen two cases, one of which proved fatal. The disease began on the fifth day after the typhoid temperature had become normal. The man ate a piece of apple and on swallowing it had a sensation of suffocation. Symptoms of stenosis developed shortly afterward and swelling and tenderness of the larynx externally were noted. The breathing became so labored that Dr. Fussell advised tracheotomy, but stupid relatives would not be persuaded of its advisability.

The second case was a typhoid convalescent in the thirteenth day after the temperature had become normal, when a chill developed. This seemed to be due to an abscess in the arm, because as soon as the abscess was emptied the fever disappeared. At this time it was noted that the breathing was stridulous when the patient was excited and was somewhat noisy during sleep. Symptoms of laryngeal stenosis developed, tracheotomy was done and a tube was inserted. The abscess opened two days after the insertion of the tube and it was evident that the pus collection never would have emptied itself with safety to the patient if the tube had not been inserted. Afterward the necrotic arytenoid cartilages were coughed up. Complete ankylosis of the crico-arytenoid joints developed and also of the vocal cords. The tube remained in place for five months and then was removed for a while, but had to be reinserted. After having practised occlusion of the tube for some hours at a time, it was removed again. It was always discomforting to the patient to have it out during the night. But at the end of six months this also was accomplished. There are only twelve cases in the literature in which it has been possible to dispense with the tube. Cases of perichondritis occur oftener than is suspected, but as the patients are very weak, the symptoms are missed and sudden stenosis occurs with fatal termination.

The Appendix in Typhoid.—Dr. Hobart Amory Hare said that it not infrequently happens that during typhoid appendicitis develops as a complication. As typhoid with appendicular symptoms is not uncommon, there will be some hesitation in operating for the appendicitis because the existence of typhoid makes the prognosis after operation so much worse. The differential symptom is the presence of leucocytosis in appendicitis. This may be slight, but it is sure to occur if there is a purulent focus. Notwithstanding the fact that typhoid makes convalescence from an operation for appendicitis less assured, operation should not be neglected where it seems necessary. If the abdomen is scaphoid and the muscles are board-like and rigid, if there is tenderness in the right iliac fossa and pain over the appendix, then an operation should be performed even although typhoid be present. The blood examination will make the decision less difficult. Leucocytosis as is well known does not occur in simple typhoid.

Appendical Symptoms in Typhoid.—A number of cases of typhoid occur in which there is pain and tenderness over the region of the appendix. In one case recently under Dr. Hare's care, McBurney's point was especially tender. There was the board-like tension of the abdominal walls. A prominent surgeon suggested operation. This was about to be performed when the appearance of the tongue, which was very characteristically typhoidal, prompted delay. Salines were given and an ice-bag applied. The symptoms remitted some the next day and at the end of a week all the appendical manifestations were gone and typhoid frankly declared itself.

Observations on Appendicitis.—Dr. Ira Van Gieson of New York said that the predisposing factors of appendicitis are important. The appendix is prepared for acute attacks by a chronic obliterative process due to a new growth of connective tissue. This new growth of connective tissue is really due to disturbance of the circulation of the appendix. During the development of the appendix the fact that the vessels are pressed upon by the ileocolic falx and also the fact that the meso-appendix is so short as to make the vessels describe a curved course render them liable to obliterative endarteritis. The exciting cause of appendicitis is always bacteria. The principal bacterium concerned is the bacillus coli communis, although the streptococcus pyogenes and the pneumococcus are also of etiological significance. The bacteria are, however, only able to accomplish their invasion of appendical tissues when the appendix is lowered in resistive vitality by affections of its blood-vessels which disturb its circulation. In more than one-half the cases the appendix has undergone more or less obliteration before the middle of life has come. Appendicitis is an important evolutional factor by which the survival of the fittest is accomplished. As such it performs a great purpose in the scheme of evolution.

The paper of Dr. Andrew H. Smith of New York, entitled "Would it not be a Gain to Both Pathology and Practice if a Direct Interaction Between the Morbific Agent (Noxa) and the Reparative Efforts Were Recognized and the Conception of an Intermediate, So-called Inflammatory Process Abandoned?" was read by title.

Human Temperature in Disease.—Dr. Norman

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Bridge of Los Angeles, Cal., said that treatment is less difficult than diagnosis. The cause of fever is still often enough a mystery. It is thought to be due to the toxins which are usually produced by microbes, acting upon the nervous mechanism which regulates heat production and heat dissipation. Besides these septic products there are albuminous products from certain organs that seem to produce the same effect. Inflamed follicles in the tonsils may cause fever and yet resolve without the production of pus. We do not as yet know how much fever the tubercle bacillus is capable of producing. It is probable that most of the fever which occurs during the course of tuberculosis is due to secondary infection, or to the breaking down and absorption of necrotic tissue. The sudden fevers which occur in childhood are usually thought to be due to ptomains from the digestive tract, but this is pure hypothesis as yet unproven. It is not known for certain whether nervous perturbation ever may cause fever of itself without any chemical influences within the body. It is known, however, that people who are feverish are made worse by emotion, but normal people seem not to be so affected. Exercise certainly does increase fever as also do emotions in tuberculosis, so that both of these are avoided as far as possible in sanitoria. The existence of purely hysterical fever has been doubted, but it probably exists. Formerly the great scapegoat in diagnosis wherever fever existed was malaria. Now it has become grip. There is a great temptation to treat fever, but it should be resisted, unless other symptoms besides the fever develop. If nervous symptoms develop, they can be best treated by baths. Fever may last for months, as occurs so often in tuberculous cases, yet without producing any serious constitutional results. Aconite has been very much used during the last half century to reduce fever. It never does it except by injuring the patient. It may make the patient less nervous by quieting the heart, but more than this it does not accomplish. Certain things for the treatment of fever may be done. Purulent products may be removed, so as to prevent further absorption. Inflammation may be allayed, and catharsis will eliminate from the intestinal tract substances the retention of which might produce fever.

Infantile Paralytic Mummy.—Dr. J. K. Mitchell of Philadelphia described a mummy found by the Flinders Petrie expedition in a village south of Cairo, on the edge of the plain. The date of the mummy is 3700 B. C. It was found enclosed in a coffin made of a sycamore tree, careful estimation of the rings of which showed it to have been at least 300 years old. One of the legs of the mummy is considerably shorter than the other. At first it was suspected that a thigh was broken. There is no evidence of this. A staff was found in the coffin with the mummy. Notwithstanding this there is no evidence of any tilting of the pelvis or any curve in the spine. It seems clear, then, that some prothetic apparatus was used upon the lame leg so as to compensate for its shortness. This was probably a high-soled shoe of some kind. The femur of the lame leg is shorter and smaller in diameter than the femur on the other side. This seems to point to an atrophy of the part. This atrophy was probably due to an anterior poliomyelitis, occurring at a very early age, or perhaps even in intra-uterine life. This is the earliest case of anterior poliomyelitis on record. The earliest case of infantile paralysis known before this was that of Jonathan's son Mephibosbeth who, Professor Osler thinks, was affected by the disease.

A Modified Sphygmograph.—This was presented by Dr. Robert T. Edes of Jamaica Plains. Dr. Edes thinks the idea that the sphygmograph can give any information as to the kind of heart lesion that exists has been given up. It is possible, however, to learn something from it as to the pulse tension. What is needed, then, is an especially accurate mechanism for the magnification and correct reproduction of the arterial tension. This, Dr. Edes thinks, he has accomplished.

The paper of Dr. Morton Prince of Boston on "The Circular Fibers of the Heart (Mitral) Sphincter as a Factor in Functional Disturbances of the Heart with Mitral Insufficiency," was read by title.

AMERICAN PEDIATRIC SOCIETY.

Twelfth Annual Meeting, Held at Washington, D. C., May 1, 2 and 3, 1900.

(Continued from page 726.)

THIRD DAY—MAY 3D.

A Case of Rachischisis.—Dr. T. M. Rotch of Boston presented a paper on the above topic, and said that it is one of the principle forms of congenital defects of the spine. It is characterized by a deficiency, either complete or partial, of the vertebral arches. The cord is rudimentary and is split open so that the endothelial lining of the central canal is exposed. The condition is of interest pathologically rather than clinically. The case in question came under his notice at the Infants' Hospital. A girl, three years old, was admitted to the Hospital on February 14, 1900, in the service of Dr. John Dane. The history of the case was that the delivery had been with forceps, but the infant was viable and it had taken no food since birth. A physical examination showed the head to be of normal size. The anterior fontanelle was widely open. There was a caput succedaneum on both sides. The face was flattened, chin retracted and held in forced position with the occiput on the principal dorsal spine. The skull was apparently well over. The foramen magnum was as large as a silver dollar. The section of the brain passed nearly through the median portion of the brain which was poorly hardened. Neither the cerebellum nor the pons was to be found in the cranial cavity.

Fatal Post-Optic Cerebral Abscess, with Amnesic Aphasia.—Dr. J. Henry Fruitnight of New York, in presenting his paper, stated that this case illustrates the extent and gravity of a pathologic lesion. The patient, Fannie W., twelve years of age, of New York City, came under his care December 10, 1899. In June, 1898, she had suffered severely from an acute otalgia of the left ear. This happened in the country. She consulted a physician who diagnosticated otitis with an abscess. He did a paracentesis of the drum of the left ear, evacuating a large amount of pus. The mother was instructed how to proceed in the treatment, but neglected to continue it. When the speaker first saw the patient her temperature was about 100° F., pulse 98, and she complained of frontal headache. There was some prostration, and she had occasional chilly sensations and nausea. There was a scanty discharge from the left ear. The clinical diagnosis was a deep mastoid caries, possibly cerebral abscess and beginning meningitis. December 17th she was seized with violent convulsions which continued six hours. They were finally controlled by the use of a rectal injection of chloral hydrate, inhalations of chloroform and hypodermic injections of morphine.

Dr. Herman Knapp of New York, who had seen this patient and made a clinical observation, said that this case was remarkable and instructive. Before the operation the location of the abscess, if it was assumed from the symptoms, would be higher up than where it was found. The operation revealed a condition which showed conclusively the presence of an abscess, the site of the disease being the bones of the ear. There was some congestion, but not so much as to indicate the condition.

Dr. Henry D. Chapin of New York called attention to the mastoid trouble in children in which the brain is not affected. It is well to note that where the mastoid disease does not affect the brain but burrows in front, it is best to look in that region. He reported the case of a boy, five years of age, in which there was tenderness back of both ears but no swelling. The temperature fell from 103° to 101.5° F. and remained there for a day or two.

Dr. Fruitnight, in closing the discussion, referred to the absence of low pulse and high temperature.

Measurements of Chicago School Children.—Dr. W. S. Christopher of Chicago presented what was probably the most interesting and instructive paper of the session. It was fully illustrated by charts and by the instruments used in taking the measurements of the school children. The observations represented measurements of ordinary anthropometry measurements and in addition the results or work of the ergograph. The ergographic work was so done as to express in cm. kilograms in place of pounds, the amount of energy exerted by each pupil tested. The test consisted in lifting at each alternate second with the middle finger of the right hand a weight equal to 7 per cent. of the gross weight of the individual and permitting them, at the next second, to return. The test was continued in each case for ninety seconds, during which time this weight was lifted forty-five times, the time being guided by a metronome beating seconds. Before the end of the ninety seconds was reached in each case the child would show signs of fatigue which was exhibited in an ergogram. On comparing the ergogram work of children of different ages, it was found that the work done by girls was less than that done by boys of the same age. Up to fourteen years of age the endurance of the girls was found to be of greater extent and showed a greater percentage than that of the boys. At the age of fourteen, the work of the girls practically reached its maximum, and from there on up to twenty years of age, the limit of the examination did not increase, whereas the boys continued to increase continuously up to twenty, and not only increased but seemed to increase at a greater rate than it had previously. The amount of energy displayed by the girls of twenty was about half that exhibited by boys of a similar age. There was a marked differentiation in the sexes at this age. The endurance of a child in the lower grades was slight, but as the upper grades were reached it increased continuously until the endurance of the boy pupils in the higher grades amounted to about six times that of the poorest pupils.

Dr. Christopher exhibited an ergogram of a sprinter. This school-boy racer said he could run three hundred yards, but could not go three hundred and thirty yards. He exhibited a high degree of strength for a short time, when he suddenly broke to complete exhaustion in a less time than a normal child would break. Another ergogram of considerable interest was the one of a choreic child, which showed irregular elevations, irregular times, irregular spacings and, in general, was a perfect picture of the movements of chorea as are observed by the eye. This child presented an unusual amount of energy in its sum total, and continued the work on the ergogram for double the time most children could maintain it.

The paper presented a confirmation of the work done by Dr. W. Thompson Porter in the examination of school children in St. Louis in 1892. From his observations in St. Louis, Dr. Porter concluded that physical superiority was associated in school children in general with intellectual precocity, and that physical inferiority was associated with mental inferiority.

There were ten charts shown illustrating the physical peculiarities of the twelve-year-old children as they occurred in the different grades of the Chicago schools. Five hundred and three children were examined and many of them were found scattered through the grades from the second to the eighth year inclusive. The averages of the physical measurements of the pupils in each of these grades were taken and a curve drawn representing the averages in each

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grade. It was shown that the weight of a child in the second grade was less than that of a child in the third grade. In general, the highest physical measurements of all kinds noted were found in the twelve-year-old child in a number of grades, while the twelve-year-old child in a lower grade presented a less average in each of the physical measurements noted. In the intermediate grades, these averages were distributed in a fairly even way.

The facts presented above go to show that physical superiority and intellectual superiority, as a rule, go together, and physical inferiority and mental inferiority are likewise, as a rule, found associated.

Dr. McDonald, of the Bureau of Education of Washington, stated that the paper was one of the most important investigations on children that has been presented. The amount of work required on such a paper as that of Dr. Christopher is only known to those who undertake original research of this nature. He has had some experience here in Washington measuring twenty thousand children and appreciated the great work accomplished by Dr. Christopher. It is curious that people of a great deal of intelligence will ask to what use this investigation may be put. It is amusing to note that, while expeditions can be fitted out at great expense to go to the North Pole, objections are at once raised if a few facts are obtained about children which are not immediately utile. The results are not always as practical as the people would want them to be and this creates an additional difficulty. He has noticed that there is a divergence as to boys and girls about the age of fourteen. The current theory is that girls are brighter and mature more early than do boys, but it would now appear that at fourteen years of age boys take the advance of girls; that is, boys mature earlier. It is also a curious fact that children born in summer are healthier, stronger and brighter than those born during the winter. He thinks it would be very interesting to work out the relation between the weight capacity and vital capacity. On this head there appears to be absolutely no facts, and this is true also in relation to strength and pain. It has been his experience that those who can grasp the most are the least sensitive to pain.

Dr. Yale said that application along these lines seems to be very interesting. Referring to the first four charts, he said that while a boy is growing tall, he is not growing healthy. He ails a little on his way and presently catches up. He will be beginning to grow in weight before he grows tough.

Dr. Fruitnight suggested that the medical profession should study more strenuously along this line than has been the case in the past. He was very much impressed in Dr. Christopher's paper. According to him, the rule of school-life seems to be reversed and that the child is kept at his desk when he should be in the play-ground, reaping the benefit of the sunshine, and an effort should be made to secure some reform in the administration of school matters. It would be beneficial to the children if they could enjoy the open air, say, between ten or eleven o'clock to half-past two. In other words, the school noon-hour should be prolonged.

Dr. Cotton thought too much importance can not be attached to this kind of work. The profession is now in the area of a careful study of the developmental period. He is particularly gratified and proud that a member of the American Pediatric Society should have given the time and shown the ability in this line of study. He believes that it will stimulate the men, especially those who are more or less associated with the developmental period of infancy and childhood, to add their mite from time to time to the accumulating mass of data. He is very much impressed by Dr. McDonald's remarks in regard to the want of appreciation on the part of the public as to the investigations along this line, whereas the public is keenly alert to the apparent advantage of investigation in commercial life, for instance. He asked for some light in regard to the period of greatest fatigue.

Dr. Christopher said that there is a period of diminished endurance from the fourth to the eighth grade, and the ergogram runs level instead of running up as it does in the other charts.

Dr. Churchill asked whether those children who show the greatest endurance on the ergogram stand highest in their class.

Dr. Christopher replied that individual cases had not been taken. The sexes were not separated because the combined number was too small at that age, but he would answer the question in the affirmative.

Dr. Chapin said he had reached some peculiar conclusions in studying the measurements of the thousand children measured in the New York Juvenile Asylum. First, the scheme of the measurements was made, then he had a report from the teachers as to the intellectuality of those children. It was shown by careful examination that some of the boys who were among the brightest had developed mental vices. In answer to a query, he said that the children were not normal.

In expressing his appreciation of Dr. Christopher's work, Dr. Ratchford said that he thought it had been probably carried on under better conditions than almost any other piece of work with which he was familiar. The results were most conclusive and reliable. He does not think the profession is in a position to interpret exactly what this ergogram means. His understanding is that it indicates muscle-fatigue as well as nerve-fatigue. It is difficult to explain why those who are weak and nervous should have been able to lift the required weight so many times. He thinks that it is of great value if it can be read to show nervous exhaustion in a child. The habit has been to attribute a great many nervous diseases to a strain from work. Referring to the chart on school life and sight, he thinks that the child from whom that chart was made was in a well-lighted and well-ventilated school, and that

the pupils were under the best hygienic condition. He thinks that the questions of school-life and hygiene have something to do with what has been written on the subject of school-life on sight, and it is probable that the sight may be impaired along with other things. There seems to be an actual basis toward precocity, and that in children of a common age the child having the best physical development is further advanced in school-life than weaker children; that is, he is capable of doing sustained work in the school.

In closing, Dr. Christopher said that an attempt had not been made to solve all problems. In the experiments at the Alcutt School, the average weight of a six-, eight- or nine-year-old child was not found to be greater or less after vacation, and there was so little information on this point, as to the liability of a child to increase in weight during vacation, that the matter was not reported. Some children improved, some did not improve, and some actually lost in weight. Some worked during vacation, some went out in the country, and some went into stores, and the statistics were thrown out as unsatisfactory. He referred to the fact that there is little discrimination on the part of teachers in reporting the condition of their pupils. The teacher's marking was thrown out as unreliable and it was necessary to go back to the line that the child's standing in grade indicated. The great standing in each number is certainly full of meaning in regard to intellectual capacity, because the grading is upon intellectual standing. There is more meaning in the grade standing than in the teacher's marking. Referring to the question of color-blindness among pupils, this defect has been found in rooms where the teacher asserted with great positiveness that no color-blindness existed at all, that the pupils used their colors perfectly in drawing and painting, and yet an actual test showed some of them to be distinctly color-blind in whole or in part.

Epidemic Paralysis in Children.—Dr. Henry D. Chapin of New York presented a paper in which he stated that in the case of a number of children who had paralysis it was due to poliomyelitis. It is probably due, he thinks, to some infectious agent. He dwelt quite exhaustively on the epidemic of paralysis which had occurred in Poughkeepsie, N. Y.

Atresia of the Larynx Due to Faulty Intubation.—Dr. Northrup, in his paper on this subject, stated that the fault in this case was due to the operator. A subsequent operation was performed but was not able to relieve the obstruction. The child died in November. Dr. Northrup exhibited the specimen and explained the case in detail. He stated that the child pulled out the obstruction several times, twice with a string, and in that way acquired a relaceration up to the number of five in all, until at last it could not be lifted. The larynx had been wounded at that time by some sudden accident and dyspnea set in.

Dr. Cotton, in discussion, asked whether the malformation of the larynx was natural or due to inflammation or disease.

In answer to Dr. Cotton's question Dr. Northrup said that it was the result of traumatism. He did not think it was possible for everybody to do intubation without detriment to the patient.

Head-Nodding and Head-Rotation in Rachitic Infants.—Dr. J. Milton Miller of Philadelphia, in presenting his paper, stated that the particularly interesting and peculiar nervous affection in young children, variously known as spasms nutans, gyrospasm, rotary-head spasm, head-nodding and head-jerking, and which is commonly associated with nystagmus, was his apology for presenting the three cases which had come under his notice during the past ten years. He regretted not having made a more thorough study of the eye-symptoms, admitting that he had not been as alive to the close and important relation which the symptoms bear to the etiology of the affection. The first case was that of a five-months-old colored boy who was first seen by him February 3, 1898. This child had been breast-fed but had never been well. He had always been subject to gastro-intestinal disorders. He suffered from abdominal pain, vomiting and obstinate constipation. The belly was protuberant and flaccid, the fontanelles large, and there were no teeth. The epiphyses of the wrist and ankles were enlarged and the ribs slightly bended. The child weighed at birth eight pounds, and ten pounds and fourteen ounces at the time the author saw him. By the use of massage, salt baths, cod-liver oil and artificial food, he improved somewhat. The child left the hospital and was brought back again because of peculiar movements of the head and eyes which had existed about six weeks. It seemed that these movements had followed an attack of measles some few months before and because of this illness was weaned entirely and fed upon cow's milk and Eskay's food. The evidences of rickets had markedly increased. The bowels were still obstinately constipated and the tongue coated. The head movements were vertical, that is up and down, occasionally somewhat lateral, with the inclination of the head to the right; it was not a spasmodic movement, occurring about ninety times a minute and ceasing only if the child was feeding.

The second case was that of a white female child, twelve months of age, breast-fed for three months and then fed on condensed milk. It was first seen at the Children's Hospital in February, 1895. The child had diarrhea and constipation alternating for many months and could not walk. There were very marked rachitic symptoms, protuberant belly, wide fontanelles, and no teeth. There were enlarged epiphyses and a well-defined rosary. The head movements had been noticed by the mother since the seventh month. They were lateral or rotary, rapid, smooth and rhythmical, occurring from fifty to sixty times a minute, and ceasing when she lay down. The pupils were equal and reacted to light; both knee-jerks were present.

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The third case was a female infant, three months old, and had been fed upon condensed

milk since birth; the teeth were absent and there were many evidences of rickets. The tongue was coated and the child was subject to attacks of diarrhea. The lateral movements of the head lasted for two months and were only noticed when the child sat erect. There was no nystagmus. The treatment of all these cases consisted in regulation of the diet, salt baths, massage and the administration of cod-liver oil.

Poisoning by Vapo-Cresoline.—Dr. Samuel S. Adams reported two cases of vapo-cresoline poisoning which he thought were directly attributable to the fumes of a vapo-cresoline lamp. In both cases the poison was not suspected. In the first case he was told that the child had whooping-cough, and in the second case he was told by the doctor, by whom he was called into consultation, that the child was dying of pneumonia. In this latter case he found the child with stridulous respiration and it frequently cried; there were also present a cold, clammy sweat and dilated pupils. The family expected the child to die every moment. He stated that as he was leaving the room he saw between the crib and mother's bed a vapo-cresoline lamp. The history of the case was that the child had bronchitis and on the suggestion of someone the mother had secured a vapo-cresoline lamp which she had placed in the room the night before Dr. Adams was called in. About twelve o'clock that night the child refused food, which was at once remarked upon. It seemed to grow quiet, but at four o'clock the mother was awakened by a peculiar noise, and picking up the child found it in a cold sweat. Dr. Adams had the child removed to another room, where the windows had been raised and fresh air admitted. The child seemed to grow better, but when taken back into the sick room the symptoms reappeared, which indicated to him that the fumes from the vapo-cresoline lamp had caused the disorder. He stated that the odor of the vapo-cresoline lamp was apparent to his wife after he returned home. He reported these cases for the benefit of the Society.

The following papers were read by title: "Naso-Pharyngeal Disease in Pediatric Practice," Dr. F. Huber, New York; "Malarial Coma," Dr. G. M. Acker, Washington; "Pertussis," F. Forcheimer, Cincinnati; "General Subcutaneous Emphysema," Dr. A. C. Cotton, Chicago.

The following officers were elected at the business meeting preceding the morning session: President, Dr. Booker; Vice-President, Dr. Packard; Secretary, Dr. Morse; Treasurer, Dr. Adams; Editor and Recorder, Dr. Carr; Member of Council, Dr. Crandall.

Nigara Falls was decided upon as the next place of meeting, the sessions to be held May 27, 28, 29, 1901.

On motion of Dr. Samuel S. Adams, a vote of thanks was extended to the retiring President. The thanks of the Society were also extended to the Rector of St. John's Parish for the use of the hall, and to the various residents of Washington whose hospitality had been extended.

REVIEWS.

The Nature and the Work of Plants. An Introduction to the Study of Botany. By D. T. MACDOUGAL, Ph.D., Director of the Laboratories, New York Botanical Garden. The Macmillan Company, New York.

NATURE study has been much in vogue during the past few years, that part devoted to the study of plant-life being especially active. A large number of small manuals, founded to varying degrees on Kerner's "Life of Plants," have come in rapid succession. This, one of the latest, as well as one of the most elementary, is an excellent introduction to the living phenomena of plant-activity. We can cordially commend it to those desiring an authoritative and yet an elementary treatise.

A Dictionary of Terms used in Medicine and the Collateral Sciences. By RICHARD D. HOBLYN, M.A. Thirteenth Edition. Revised by JOHN A. P. PRINCE, B.A., M.D. Lea Brothers & Co.: Philadelphia and New York.

WE have been using this handy volume for some time and find it reliable and comparatively complete. As far as the terms of medicine are concerned, it contains most of them. Older methods of spelling are followed. In the matter of the words in vogue in the collateral sciences, like Mark Twain's Jumping Frog, we fail to find any particular point about that frog. Biological, chemical and botanical terms are few and far between and this dictionary has the same defects that all of them have in this line. Its medicine is, however, very good and there are a number of original features in the grouping of related topics that are strikingly suggestive.

THERAPEUTIC HINTS.

For Acute Pharyngitis.—

Apply wet compresses to the neck, give the patient small lumps of ice to hold in his mouth, and prescribe a mucilaginous gargle such as the following:

℞ Decoct. fol. altheæ (parts 1—10)...℥ vi
Tinct. opii..... .....ɱlxxv.
M. Sig. Gargle, to be warmed.

Another very useful gargle is a solution of 1 grain permanganate of potassium in a pint of water.—*v. Schrötter* (Landesmann).

Topical Application for Burns.—After having washed the part with boric solution and having evacuated the blisters if there are any, apply with the aid of a brush the following solution:

℞ Tannin 3iiss
Alcohol 3iiss
Sulphuric ether .....3iiss.
M. External use.

M. Nikolsky (*Bull. gen. de Thérapeutique*, March 8, 1900).

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ORIGINAL ARTICLES.

THE STATUS OF GYNECOLOGY IN 1876 AND 1900.[1]

BY ALEX. J. C. SKENE, M.D.,
OF NEW YORK.

THE conception of modern gynecology began about seventy-five years ago when obstetricians discovered that woman was more than a mechanism for reproduction, and surgeons became fully aware that they had much to learn regarding her diseases and their treatment. This realization of the unknown awakened interest and gave a new impetus to the evolution of gynecology. Slowly, almost imperceptibly, learning advanced in this branch until thirty-five years ago, when, stimulated by the ever brightening light of modern medicine, the development and growth in this field became progressive to an amazing degree.

Twenty-five years ago the knowledge of this branch of medicine had grown sufficiently great to entitle gynecologists to a special position in the profession. At this time gynecology may be said to have graduated with honors and to have taken a well-merited position among the grand divisions of the profession. This graduation—so far as this country is concerned—took place at the advent of the American Gynecological Society, an occasion which lingers in the memory now as an inspiration and a benediction.

In 1876 gynecology appeared like a young and brilliant member of the medical profession, well versed in all that was known at that time, but not the mature expert, well trained by long experience—yet enthusiastic, and very anxious to push onward to new and higher attainments.

The literature of gynecology was immature then, but embodied all the best thought and definite knowledge of the age. There were altogether about three hundred printed books which contained the essence of all the science and art of gynecology that had been brought forth in the periodical literature and booklets in the preceding seventy-five years. There was one journal devoted to the subject and one gynecological society in existence and ten obstetrical journals that had gynecological departments. To speak figuratively, gynecology and its literature had passed the infantile period of existence and attained to the age of puberty with all the essential elements in its organization outlined by the developmental processes and surrounded with the nutritive conditions foreboding a phenomenally rapid growth and the promise of a speedy maturity.

[1] Read at the twenty-fifth annual meeting (Semi-Jubilee) of the American Gynecological Society, held at Washington, D. C., May 1, 2, 3, 1900.

The teaching in this department in the preceding days consisted of three or four lectures on diseases of women by the professor of obstetrics, an occasional reference to the subject by the surgeon, and, by way of clinical instruction, the student might be permitted to see the cervix uteri through a Ferguson speculum on several notable occasions. At the time now in review the obstetrician gave about a third of his time to diseases of women. Surgeons also taught some of the operations in gynecological surgery. Indeed, in some of the most advanced medical schools, here and elsewhere, a course of scholastic lectures was given which embraced all of the subject matter or science extant in the literature. Clinical teaching in the schools in general was rather meager still, although a few of the masters here and there gave practical instruction in all that was known twenty-five years ago. Clinical teaching, which was inaugurated in Italy at the beginning of the seventeenth century, made rapid progress and spread all over the scientific world until all branches of medicine were practically taught in an acceptable way in 1876—except gynecology which remained behind. There were many clinical orations on diseases of women given annually, but the practical drilling necessary to make competent practitioners hardly met the requirements.

The differentiation of sex was receiving due attention and the characteristics of woman in all her infinite variety of structure and functions and their relation to health and disease were well outlined in the minds of the foremost gynecologists. The relation of the reproductive system to the general organization had received liberal consideration. The scientific discoveries at this time paved the way for the emancipation of woman in her social, ethical, and political life about which philosophers and philanthropists have had so much to say in later times.

Anatomists had mastered the descriptive anatomy of the pelvic organs before the dawn of gynecology, and some needed information regarding surgical, regional, and transcendental anatomy had been added, so that the gynecologists understood those structures the diseases of which now claimed their attention.

The breath of scientists had blown away the mystical fog that had for ages hung around the function of menstruation. Now it was known to be conducted on the same principles as all other physical phenomena and more rational ideas were entertained regarding its utility in the economy. Still, the histology of the structures concerned, its advent at puberty, the physical necessity for it, the inducing conditions, the laws governing

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and the beneficial results obtained by menstruation were being evolved, but not definitely settled.

The methods of observation and detecting organic diseases of the pelvic organs had caught up to physical diagnosis as practised in other branches of medicine and surgery. The instruments previously invented for facilitating inspection were not only useful for diagnosis, but made the procedures in plastic surgery possible—such, for example, as vesicovaginal fistula and injuries of the cervix uteri. In fact, this successful plastic surgery of the pelvic organs and ovariotomy were the triumphs which placed gynecology upon a plane of equality with general surgery.

Diseases of the uterus of the inflammatory and malnutrition order were known in a somewhat indefinite way. The inquisitive had looked beyond the "ulceration of the os uteri," postpartum subinvolution, and leucorrhea and had seen various morbid states, the pathological significance and classification of which were still rather chaotic. The problem of causation of these uterine diseases was being wrought out, but was not completely solved. Many factors, such as germ infection, had not been fully admitted to their proper place in etiology. Owing to this incomplete knowledge of pathology and etiology, uterine therapeutics were limited and somewhat incompetent. This was in keeping with the basic fact that rational treatment has not preceded, but has followed scientific pathology and etiology.

The normal position of the uterus in the pelvis and the physiological limits of its mobility had been comprehensively studied, and the structures which hold the uterus in place, having been investigated by a number of able observers, were about definitely agreed upon. Displacements of the uterus had been all fully described and the causes were still subject to discussion with a near approach to agreement. The treatment of these dislocations was still limited to mechanical means plus restoration of the pelvic floor. The net result was relief in many, recovery in a few, and failures to even help in a considerable number of these cases. Surgery had only played a small part in the treatment of uterine displacements. Pathologists had discovered at the post-mortem table most of the malformations of the uterus arising from lesions of development. Some of these had been recognized clinically and some surgical work had been tried for their relief with results that encouraged farther efforts in that direction. Neoplasms of the uterus, such as myofibroma, carcinoma, and sarcoma, were well advanced so far as the natural history, pathology, and diagnosis were concerned; but the treatment of these was not far beyond the palliative stage with some suggestions or foreshadowing of great potentialities in surgical treatment. I refer to isolated efforts at extirpation of intra-uterine fibroids, hysterectomy, vaginal and abdominal and high amputation of the cervix. Most of these operations were considered at that time to be daring experiments not sufficiently successful to be justifiable operations.

Inflammation of the pelvic areolar tissue and pelvic peritoneum still held a prominent position in the minds of gynecologists. Pelvic cellulitis especially was given the credit of being a very common affection by many, but the most advanced observers had begun to differentiate this affection from inflammation of the oviducts and ovaries, and some of the extremists went so far in that direction that they forgot cellulitis altogether. Obstetricians had noticed that pelvic cellulitis occasionally followed parturition, premature or at term, and they concluded that other pelvic inflammations presenting similar signs and symptoms must be cellulitis. At least, that is the only explanation at hand to account for the delay in getting away from the confusion and confounding of these diseases.

Pelvic hematocele maintained a prominent position in the classification of pelvic disease at this time, but notifications of ejectment were being served upon it to make room for ectopic gestation which then had come very impressively to the attention of gynecologists.

Ovariotomy was, no doubt, the most illustrious discovery in gynecology up to this time. The more heroic, competent, and progressive surgeons in this field pointed with justifiable pride to this means of eradicating the ovarian cystomata that heretofore had been fatal, crowding its victims out of existence by cruel and slow degrees. Confidence in the efficiency of ovariotomy as practised by the most experienced operators was fairly well established, not altogether on the results obtained, but on a growing comprehension of the causes of failure and an intelligent hope and prospect of overcoming the stumbling blocks in the way of complete success.

About this time the attention of all medical scientists was concentrated on bacteria and bacilli and the part played by all such germs in the causation of disease—especially sepsis in surgery. Ovariotomists were among the first to practically apply every germ of knowledge relating to aseptic and antiseptic surgery and were beginning to realize some advantages in their war against the infection of wounds in their special branch. A better knowledge of how to make hands, instruments and appliances cleaner, if not quite surgically clean, enabled the foremost of ovariotomists to escape from the dense clouds of carbolic spray that were presumed to purify the air, but at the same time poisoned, to a degree, the patient and operator. Post-operative septic diseases were still too common and hence the operators were obliged to struggle with the problem of cleanliness. Drainage of the abdominal cavity after ovariotomy was much in vogue then, and was of service in cases which had not been left quite clean and complete in all the necessary and possible conditions essential to recovery. The great advantages already attained in anti-bacteria methods gave a sense of security to the operators which was regarded by some so highly that they in some measure neglected the cultivation of dexterity and accuracy in operating and

lost ground to some slight degree just there. Taken altogether, ovariotomy was about the sum total of abdominal surgery successfully practised at that time, and was attended with an encouraging praiseworthy success in simple cases. There still remained much room for improvement in the management of complications and in cleanliness and technic generally. Toward these higher and better ends gynecologists were directing their efforts on scientific lines that had been fully laid out in this field of special surgery. Their energy, industry, and enthusiasm in this regard were most praiseworthy and deserving of success.

While the treatment of ovarian neoplasms was well on the road towards first place in the line of major operations, other diseases of the ovaries and oviducts were still in the hands of the student and clinical investigator. Acute and chronic inflammation of these structures had been discovered, mostly post-mortem, and their pathology described by the professors of morbid anatomy. Gynecologists were discussing the diagnosis, causation, and treatment of these diseases and two or three men had done some startling work in surgical treatment. Nevertheless, the whole matter had not been sufficiently elaborated to insure its unqualified acceptance as mature science and art by all who claimed kinship with gynecologists. If gynecologists left this part of their science and art a little behind, they certainly made up for it in after-times by rushing the matter forward until it threatened to overshadow all else.

Leaving out of account vesicovaginal fistula, vesical calculus, urethal carunculæ and cystitis there was little known or said about diseases of the urinary organs in woman by any one anywhere, excepting in Austria where one man of brilliant mental capacity had brought up the subject to the plane then occupied by the other branches of this special department of medicine.

To present a picture that would represent the status of gynecology twenty-five years ago in anything near to a recognizable portrait, requires a bigger canvas, a brighter light, and far more of the painter's artistic skill than has come my way. However, I may borrow from the architect's method of representation and say that the ground to be occupied by the gynecology of the future had been well surveyed, the foundation of the structure had been built by most skilful workmen. The walls had been raised and roofed over. Halls, stairways, and rooms all outlined by framework and partition walls, and most, if not all, of the floors had been laid in mosaic of cubes from every known land. Several rooms were finished and furnished in modern fashion and fit to be occupied by the lords of this new creation. This structure had been named and declared to be worthy of a high place among the older and best mansions of the age. The designers and builders were acknowledged by the censors in medicine to be the masters of science and arts who held the full confidence of the profession.

There were few men at this time who gave their whole time and attention to gynecology and were known as experts or specialists in this branch of practice. There were, perhaps, two or three such in this country and about the same in other nations; a number who had a comprehensive grasp of this special practice with one hand, while with the other they still kept a less firm hold upon obstetrics, general medicine or surgery. All of them were noted, respected, admired, and honored for their honesty, earnestness of purpose, professional dignity, honor and courtesy among themselves and to all professional neighbors. Good natured, normal rivalry in the struggle for higher attainments in their science and art was at white heat, but uncontaminated by business or commercial methods of making a paying reputation.

Turning from this, glance backward upon the past to look at the present, the changes for the better and greater that appear are quite surprising.

The status of gynecology to-day is on a par with that of all other specialties in medicine. This, I presume, is admitted without reservation by all including a few of the obstetricians and general surgeons who claimed gynecology as their offspring which they may have hoped to keep to themselves for all time, that they might exercise a paternal and maternal control over it and share its honors and earnings.

This right and title of gynecology to live and maintain a degree of independence, being based upon its maturity and capability, has put to sleep all jealousy that may have existed and silenced the guns of the critics forever. This surely must be conceded by the most conservative when they witness the fact that to-day the literature of gynecology is as complete, comprehensive, and nearly, if not quite, as ample as that of any other special department of medicine. While there were only three journals and one society exclusively gynecological in 1876, there are now in every city and town the world over one or more journals and societies devoted to this new and youngest department in medicine. And the books have grown in number from 300 to 1000. Verily, the gynecologists have obeyed the injunction, "Be ye fruitful and multiply." In every medical school worthy of the name gynecology is taught by men of known ability. As much time is given to scholastic and clinical teaching as to any other subject, such as opthalmology and neurology; and professors of gynecology are many, perhaps a little supernumerous.

The mental and physical characteristics of woman and their adaptation to her cosmic relations, the interdependence and harmonious associations of her reproductive organs and general organization are now well understood. Consequently the etiology and diagnosis of diseases peculiar to woman are based on scientific principles, and the treatment is rational, not speculative. Along with this higher knowledge of the structure and functions came the comprehension of the

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many derangements of the nutritive and nervous systems caused by diseases of the sexual organs which were called in the past hysteria, but are now known as reflexes and treated accordingly. In this matter much valuable aid has been given by the neurologists to whom due credit should be given. The inscription, which, freely, translated, means "The fellow is a woman because of a uterus," is seldom seen, but instead the present-day saying, "Men and women are equal, but not identical," is heard.

The physiological anatomy and histology of menstruation, the necessity for and cause of it, and the effect of its derangements upon the general economy are all well defined now and make a valuable part of the working capital of the practising gynecologists who have to care for the derangements of this function. The old order of therapeutics of a few years ago, emmenagogues for amenorrhea and astringents for menorrhagia with a liberal amount of gin for dysmenorrhea are forgotten. Puberty and the menopause, which were discussed in a few pages of some works on diseases of women, have been fully elaborated, so that now the latter is the subject of two books that are monuments to the industry of their authors and a benefaction to women.

The present status of methods of investigation and observation shows a marked improvement—or, rather, a growth in refinement and accuracy which is quite abreast of that of other departments of medicine.

The closure of vesicovaginal fistulæ and the repair of injuries of the pelvic floor, referred to as the top leaves of the tree of knowledge in pelvic surgery twenty-five years ago, have been supplanted by vast improvements in perineorrhaphy and many new surgical procedures which to-day fulfil nearly all requirements. Moreover, in the past there were few successful operators in this part of restorative surgery. Now they are plentiful as coal-tar products in the materia medica and many of them are competent.

All that was obscure and indefinite regarding inflammation of the uterus twenty-five years ago has been cleared away and now metritis in all forms, degrees, and varieties—with their septic, specific, traumatic and other causes—are all well known. Much light has lately been thrown upon all pelvic inflammations by investigations of the bacteria, native and foreign, found in the vagina and uterus, and, what is more pertinent at this time, many of these discoveries have been made by gynecologists. The causative relations of neoplasms and post-partum and menstrual subinvolution to metritis are settled questions. Clearer ideas regarding pathology and causation have led to more scientific treatment. The routine applications used in the past for all morbid conditions of the endometrium are forgotten. At this time all forms of uterine diseases are treated according to modern surgical and medical therapeutics which give results that might make the older gynecologists wish that their birth had been deferred a quarter of a century.

Equally strong lines and high light may be used in sketching the present status of displacements of the uterus. There is now more harmony of opinion regarding the normal position of the uterus, the agents which keep it there, the causes of displacements, and the structural changes in other pelvic organs and tissues which follow in the various degrees and forms of dislocations. Much as there is in this, it is little compared with the matured state of the treatment of uterine displacements. Mechanical support practised in the past, which generally relieved, sometimes cured, and often failed entirely, has largely been supplanted by a number of surgical procedures which, as practised at the present time, succeed in giving relief as often and as surely as failures occurred in the past.

Flexions of the uterus are closely related to displacements of the uterus, although many class them as malformations and treat them on that basis. Whatever opinions may be held regarding the pathology of these affections, their treatment is far in advance of that of the past. Incision and discussion of the cervix and dilation with that abomination, a sponge-tent, was the exclusive surgical treatment, but to-day the old has given way to new and vastly more satisfactory surgery. It may not be too much to say that the cure of a flexion of the uterus and its incident complications was an exceptional result of the treatment of that day, and now successful treatment is the rule.

Regarding for a moment neoplasms of the uterus, one has only to contrast the treatment of myofibromata in the past and present to be able to appreciate the extraordinary advancement. Pedunculated fibroids that had found their way into the vagina were removed and some of the leading operators had enuncleated intra-uterine tumors, but not with encouraging results. This was about as far as surgery went in this direction. To-day the gynecologist, with his success in abdominal and vaginal myomectomy and hysterectomy, is now master of this field which he only entered twenty years ago. Similar, although less marked, is the reputation of the surgical treatment of cancers of the uterus at this time compared with the past.

Pelvic cellulitis is very rarely heard of now except as a puerperal disease resulting from some old-time obstetrical practice.

Pelvic peritonitis has also fallen from its high position to that of a secondary affection, having little interest compared to the preceding diseases which cause it. Pelvic hematocele also has been crowded almost entirely out of the mind of the gynecologist to make room for ectopic gestation to which so much profound consideration has been given, and for which so much is being done to save the victims of this strange blunder in reproduction.

Ovariotomy and bacteriology (in its relation to the causation of disease) were as school children, strong and prosperous for their age in 1876, and they have grown up together to a well-round-

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ed maturity. The improvement in ovariotomy has been mostly in the direction of successfully dealing with all kinds of complications and notably intraligamentous cysts and injuries to the ureters and intestines. The making and closing of of the abdominal wounds and the protection of exposed tissues by the present methods of cleanliness in surgery have all been brought up to such a high plane of perfection that the only question remaining now is, shall the subject be handled with or without gloves?

The other diseases of the ovaries and oviducts, that were only known to the pathologists because they were generally incurable and often fatal, are now quite familiar to the gynecologist and as completely under his control as anything in his practise. Opening a pelvic abscess through the vagina was about all that the surgeon dared to do in the early days of gynecology. Now diseased tubes and ovaries are extirpated with a facility and certainty of success that surpass all that was ever dreamt of, or hoped for, by the prophets of early days. In fact, abdominal and vaginal ovarosalpingectomy are among the most valuable and highly prized procedures in this branch of surgery. The only question one hears discussed at this time is the relative advantages of the vaginal and abdominal avenues of approach to the field of operation in certain conditions.

Diseases of the urinary organs in women have lately claimed much needed attention which has placed the subject upon the same plane as that of the most highly cultivated branches of gynecology.

These brief, incomplete references to a few of the prominent features in the picture of gynecology at the present time may enable one to see the whole subject as it appears before the profession and the public to-day. The gynecology of twenty-five years ago was likened to a recent graduate, well versed in the rudiments and having clear impressions of the general subject, but having limited power of expression, knowing much of what should be done, but having little ability to do. Meantime impressions have been multiplied and executive ability has grown in proportion until now gynecology is great enough to hold its place among the specialties in medicine and big enough to monopolize the full capacity of any brain—even although a little above the average in size and activity. Referring to the architectural simile employed to represent the status of gynecology at the advent of this society, it may be said that the rooms in the structure that were empty are now fully furnished in a scientific and artistic style, embracing all the modern improvements. Plans have also been made for large additions in the way of hygienic and protective medicine.

Regarding the character and standing of gynecologists at the time when this imperfect little description began, it is true and well to say that there were giants and gentlemen then—learned, dignified, earnest men who were just, courteous, and observant of all that is best in professional ethics and etiquette, regarding always the rights of others as equal to their own. To-day gynecologists, both amateur and professional, are far greater in number, but evidently not superior in ethical culture and altruism. They may be better in this respect than they appear to be. Owing to overcrowding, the gynecologists in their struggle for a living may fail to respect their neighbors as they do themselves—although they may still have the inherent desire to do so although eyes that were used to the light of the past fail to see it.

These remarks are given from my memory of the past and my impressions of the present and are, therefore, incomplete and, to some extent, inaccurate. I had no time to give the names of the men who made gynecology and give credit to each for work well done. This, however, is not necessary in addressing you who know well to whom the honors are due.

Finally, an unbiased study of the part played by this country in the evolution and actual life of gynecology enables one to keenly feel, without a shadow of the arrogant or vainglorious that, in the discoveries, development, and growth of gynecology this country has been and is now first among the foremost—and this Society for the past quarter of a century has been and is now the representative of all that is indicated and comprehended in its name.

THE PHARMACOPŒIA OF NINETEEN HUNDRED.[1]

BY HORATIO C. WOOD, M.D.,
OF PHILADELPHIA.

IN the thought of the Infinite it may well be that in unbroken sequence event follows event from infinity to infinity, but man, bound to time by the limitations of his own existence, for his own purposes arbitrarily breaks the monotony of progress and calls the larger fragments years, decades, centuries. To-day the tally of the decades is full, and assembled here together we stand upon one of those great mounds which mark the passage of a century. Looking forward as a traveller who has reached some high dividing summit we strive to peer into the future, but its mists are impenetrable, and what seems to our straining vision the outlines of figures are but the projected shadows of the present. The view behind is plainer; the roads by which we have reached the summit are crowded with footsteps, in the near-by sharp and distinct, and fading with the distance. Under such circumstances it is but natural that the opening address of your President should take an historic tinge, and that before we settle down to work we should try to draw from the past such lessons for the present as shall make secure the future. Such retrospect is especially fitting since our labors, when they shall be carried to their end, will finish the first

[1] President's Address to the Committee of the Revision of the U. S. Pharmacopœia, Washington, D. C., May 2, 1900.

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century of Pharmacopœial work in the United States.

It is true that, as told in the historical introduction to the Pharmacopœia, there was published in Philadelphia in 1778, for military purposes, a small Pharmacopœia; but it was the Counsellors of the Massachusetts Medical Society who, in 1805, first appreciated the need in America of a general Pharmacopœia; and it was the result of their labors, issued in 1808, that suggested to Dr. Lyman Spalding of New York City the formation of the National standard.

The dry-bones of history, such as may be found in the opening pages of the U. S. Pharmacopœia, interest most of us but little, but, when they are clothed with flesh and blood, it quickens heart-beats to see how near akin the men of the past were to the men of the present; and how, notwithstanding all change, the continuing brotherhood of the race reveals itself in the written lines.

In 1874, profoundly impressed with the rapid multiplication of medical books, and the phenomenal growth of medical literature, I wrote in opening the preface to my book on Therapeutics: "Indeed, art is so long, life is so short, that every student has the right to demand of an author by what authority he doeth these things, and to challenge every memoir for its *raison d'être.*"

Judge of my surprise, when recently looking over the Pharmacopœia published by the Massachusetts Medical Society, to read among the first sentences, "Books multiply so fast that it has become necessary to preface every new work with reasons, indeed, almost an apology, for its appearance." This in 1808, when America was little else than wilderness; when, as we view the matter, neither medical journalism nor medical literature existed in the United States.

Very far from the truth is Tennyson's antithesis between the permanence of the brook and the momentary life of humanity; the fact is that the stream of mankind "flows on forever" as much as does the current of the brook; only as the drops of water in the brook change moment by moment, so do the drops come and go in the great human stream; and almost as like as drops are to drops so is man to man. 'Hands from which had scarcely fallen the gauntlets of Puritanism, wrote in primeval New England, "It must not be understood that in adopting the modern language of botany and chemistry we have consulted the whims of every pretender. In this as in former ages men are creating confusion by creating names."

Wise words are these, which the coming Sub-Committee on Nomenclature of the U. S. Pharmacopœia should ponder a little more seriously than have their immediate predecessors. "In this as in preceding ages men are creating confusion by creating names." Applicable is this to all sciences, but most applicable is it in the purely natural history studies, so-called, such as zoology and botany. Smith, or Jones, or Thomson, or Cope, written at the end of the name of an animal or plant, fails not in its influence on human personality. I well remember with what glee and pride in the days of my callow youth, when I should have been under the taskmaster's learning methods and facts, I first saw H. C. Wood written after the name of a piece of fossil drift-wood from the coal fields of Pennsylvania. The boy is the father of the man. Unconsciously there remains in each of us some capacity of enjoyment such as was in the boy who, pointing to his name in the newspaper, said to his old aunt, "That's me." If the personal element could be withdrawn from the specific nomenclature of animal and plants there probably would be much simplification. Let it be said of none of us that we have created confusion by creating names. Why must the poisoned American perish while we are searching our memories for *ferri oxidum hydratum cum magnesia,* when *antidotum arsenici* might have saved his life if only he had lived in Germany?

In the preface of the Pharmacopœia of 1808 it is interesting to find the germs whose subsequent growth has cost the members of this Convention and its Committees so much labor. In accordance with the statement in the preface, "As there frequently arise errors of no small importance from the promiscuous use of weights and measures, it is proper that the quantities of substances, whether fluid or solid, be determined by weight." In accordance with this the framers of the first American Pharmacopœia adopted the system of parts by weight, but unfortunately they went on to say, "Yet it may suffice to measure wine, water and aqueous liquids in some instances, provided that for this purpose vessels be employed, of glass where the nature of the substance requires it, whose capacities and divisions accurately correspond with the divisions or multiples of the modern pound."

So saying, our fathers sowed the tares which grew up with the wheat, and choked out the true grain until only by the labors of many years were they up-rooted and the system of parts by weight in its purity reinstated in the U. S. Pharmacopœia. The tares grew rapidly, for in the second edition of the Pharmacopœia, that of 1820, fluid measures were employed. The sin of the men of 1820 in changing from parts by weight to liquid measures of quantity was made greater by the fact that the liquid measures were not at that time in use among the apothecaries of America. That the amblyopia of the revisers was not deeper than that of their contemporaries is, however, shown by the following extract from a contemporary review of the National Pharmacopœia in July, 1821: "If the American Pharmacopœia be adopted throughout the United States, as no doubt it will be, these modes of indicating quantities must necessarily come into use, and that they will be continued after having been introduced we do not hesitate to affirm, because they are more definite and precise, and consequently safer than the old methods. In such case it will be necessary that the

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apothecaries be provided with the measures above mentioned."

The language of the Massachusetts Pharmacopœia of 1808 was English. The first United States Pharmacopœia of 1820 was printed in Latin, with a translation of the Latin into English upon the opposite page; and the Convention of 1830, in not departing from the use of Latin, justified itself in the language of the preface because "the Latin, if not essentially necessary, may prove highly serviceable by fixing the precise meaning of an English phrase which might not otherwise be well understood." Fancy an American apothecary or even an American doctor of the present time, when he could not understand the exact meaning of the English turning to the Latin to clarify his thoughts!

The Pharmacopœias of 1820 and 1830 were prepared by the Conventions themselves, these Conventions being composed solely of physicians. In 1840 the growth in numbers of the Convention necessitated the reference of the detailed work of Revision to a Committee, and the method still in vogue was inaugurated. The same Convention made itself further historic by the determining that the Convention to be called in 1850 should be composed of the two professions of Medicine and of Pharmacy, by whose co-union in labor the continuance of the Pharmacopœia of the United States as an authority has been made possible.

Since 1840 the great part of the labor revision of the Pharmacopœia has fallen upon the successive Chairmen of the Committee of Revision. In sixty years of these labors there have been only four, namely, George B. Wood, from 1840 to 1860; Franklin Bache, from 1860 to 1870; Joseph Carson, from 1870 to 1880; Charles Rice, from 1880 to 1900. As no revision of the Pharmacopœia has been more successful than the last, and as at no time have the necessary duties of the Chairman of the Committee been as great as they are at the present, so never in the century has there been found a man more laborious, more conscientious and painstaking, or better fitted by extraordinary acquirements and personal qualities to fulfil the onerous duties of the position than the present Chairman; and your President most earnestly hopes that by his continuance in office the success of the next revision of the Pharmacopœia may be ensured.

During its whole life the United States Pharmacopœia has received no governmental support, and has been free from governmental control. Under the circumstances the influence which it has exerted upon the pharmaceutical and medical professions and the voluntary obedience which has been given to it are not only a tribute to its practical excellence but also a strong evidence of that peculiar Anglo-Saxon power of recognizing authority which is not upon the statute books; a power born of self-control and common sense which makes the race of all others most capable of self-government. The indirect recognition by the Government of the Pharmacopœia becomes each year more apparent both in Federal and State legislature, so that there does not seem at present any danger of the Pharmacopœia losing its control in the United States.

The Pharmacopœias which have been produced in the United States by voluntary effort both in the past and in the present contrast favorably with the governmental standards of European countries. In its scientific accuracy, in its general usefulness and in the efficiency and elegance of its resulting preparations, our Pharmacopœia is the peer of the best. I am not one of those who are conceited in things American, freely acknowledging that we have added very little to the great sciences which underlie the practice of medicine, and that we have been indebted to Europe for almost all of our fundamental inspirations, I still hold most strongly to the belief that there are no therapeutics superior to the American therapeutics, and that in no country has pharmacy been carried to the perfection that it has reached in the United States.

Delegates of the Pharmaceutical Associations, I congratulate you on representing a profession which has attained its highest development in the United States.

There is a probably widespread, and certainly often spoken of, feeling that the medical profession of the United States does not properly appreciate and support the U. S. Pharmacopœia. There is some foundation for this feeling, but certainly it is exaggerated. It is true that—owing to the activity of manufacturing pharmacists and the number and skill of their commercial salesmen (vendors of samples), aided by the deficiencies of medical education and the peculiar childlike credulity which is so common in doctors—all kinds of proprietary mixtures and proprietary articles, and extra-pharmacopœial remedies are largely used in the United States. It is so easy for the lazy doctor to write for Smith's Panacea for Human Ills, and so easy for the doctor who knows neither Materia Medica nor Therapeutics to order Jones' Consumption Cure or Thomas' Kamiantia, that so long as laziness and incompetence remain with us so long will this thing be done. But this is no fault of the Pharmacopœia, and no perfection of the Pharmacopœia can greatly influence it.

Certainly any attempt to reduce the products of the Pharmacopœia to the level of the proprietary or patent medicine would be to destroy the dignity of the work, to bring it into contempt, and finally to uproot its influence. Under the influence of State law and of public opinion the average education of the American medical profession is rapidly and steadily rising; in this and not in anything that this Convention or its Committee can do lies the hope of the future. Moreover, the intensity of the feeling that the American medical profession is not as thoroughly interested in the Pharmacopœia as it ought to be rests largely upon a misconception of the intent of the Pharmacopœia, and its relations to the

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medical profession. A Pharmacopœia is not intended to be a guide to practice, or a working-book to be used by the doctor, but is really the hand-book of the apothecary. I do not believe that at any time or in any country Pharmacopœias ever have had much sale among the medical profession; and each year, as the professions differentiate themselves more and more, as the doctor becomes less and less of a pharmacist, the tendency of the doctors to buy Pharmacopœias must grow less rather than more. The Pharmacopœia can only be popularized in the medical profession by making it a treatise on Therapeutics; in other words by causing it to cease to be a Pharmacopœia. So long as it is a Pharmacopœia it is the basis upon which text-books and Dispensatories are to be written; and it becomes through these treatises a guide to the medical profession. It remains the apothecary's *vade mecum,* with which in hand he does his work, and its sales must be chiefly among the apothecaries.

There may have been a time when the medical horizon was so narrow that the doctor had time to trouble himself as to how the druggists made laudanum, but at present the doctor has as much as he can do to store his mind with purely medical facts; he wants simply to know what laudanum does when he puts it into the patient, and he trusts the apothecary to give him laudanum when he calls for it.

Be these things as they may, it is certain that the present condition of the U. S. Pharmacopœia is one of great prosperity. The book itself ranks with the best of its predecessors or of foreign Pharmacopœias, representing all that was possible in 1890. Its hold upon the people of the United States is more firm than it ever was before. Its sales have far exceeded those of any previous edition, and for the first time in the history of this Association the treasury is overflowing. Indeed, so rich have we become that the greatest danger which threatens the Association is, to my thinking, surplus of revenue.

Standing on the Great Divide between the centuries, viewing the Past and the Present, what lesson can we draw that shall help us to make sure the Future? Is it not that we shall push straight out the old paths? For one hundred years they have been trodden by successive generations, who have found them sure roads to scientific advancement and practical success. Why should we depart from customs whose soundness has been time-proven?

It is a remarkable fact that during a century of successful life this Convention or Association has had no written fixed law for its government. Largely for this reason certain errors have grown up and received widespread adherence as to the nature and scope of this body. Thus, many persons are inclined to look upon each meeting of the Convention as a separate and distinct Association, and even to consider the Committee of Revision as an independent body. The fact is that the Convention for the Revision of the United States Pharmacopœia is a continuing Association, parallel in its nature to the American Medical or the American Pharmaceutical Association, or other similar organization, the sole difference being that the period between its meetings is ten years instead of one year, as is usual. The Convention should really be spoken of as an Association; it is continually alive through its officers, whose duties never cease and whose positions are never vacant unless it be for the moment of change of occupants during the session of the Convention. The Convention is further always active through its Executive Committee and Committees of Revision and Publication, so-called, to which, as agent, the Convention delegates its powers when not in session.

The growth of this Association in numbers, in influence, and in wealth, has seemed to me to make it imperative at this time that what has been tradition and the growth of custom should be clothed with the fixedness and authority of written law, and that a written Constitution and By-Laws should be adopted.

The growing responsibilities of ownership and of business make it further essential that this body shall in some form or other be incorporated. It seems to me also necessary that a slight alteration should be made in our working methods; an alteration which is, however, not so much a change as a development. The present Committee of Revision and Publication has, as its name implies, two offices or functions which are entirely distinct; the one being concerned with the preparation of the Pharmacopœia, the other with its publication; the one requiring on the part of the Committee that has charge of it scientific knowledge and practical skill in medical and pharmaceutical matters, the other business judgment and activity.

It is certain that a scientist may also be a business man, but the scientist is in reality no more frequently a business man than the business man is a scientist; and so it has come to pass that in order that its personnel shall include men of business, of science, of medicine, and of practical pharmacy, the Committee of Revision and Publication has been composed of twenty-five members, a number which makes it cumbersome, wastes the time of the Chairman, and achieves results no better than would be obtained with much less labor by a smaller body.

The proposition which I have to offer for the consideration of this Convention is that this double Committee shall be divided into its component parts, and that out of it shall be made two Committees, one to prepare, the other to publish, the Pharmacopœia. Let the new Committee of Revision be composed of twenty members, and let the Convention nominate five members, who, with the President of the Convention and the Chairman of the Committee of Revision, after they shall have been appointed, shall constitute a Board of Trustees which shall have charge of the financial and publishing business of the Convention.

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The experience of the last decade seems to make this imperative. A considerable sum of money has been very properly spent in the paying of experts for research work, but there are many members of the Committee of Revision who have done work greater in quantity and in importance than any of these investigators, who yet have received no compensation for their services. Why? Because gentlemen do not vote money to themselves out of public funds, even though it may have been properly earned.

Let me give you a concrete instance. Professor Maisch went over all the Materia Medica definitions of the Pharmacopœia; with his great knowledge and with a splendid Materia Medica Museum at his command he spent hours and days rectifying, enlarging, and perfecting the definitions of drugs until probably they are the best ever written; for which no compensation has been awarded him or his heirs. One of the duties of this Convention certainly is to set aside or in some way make provision for the payment of such services, but it is always better to be just during the time of action than to atone afterwards for an injustice; and if a Business Committee is formed by this Association it can determine the relation between the value of services rendered by the members of the Committee of Revision and the power of the Convention to compensate. If it be thought desirable, this Business Committee or Board of Trustees may be made to constitute, with the officers of the Convention and the Committee, a general Council, who shall represent the Convention in large matters, such as the decision of whether an extra edition of the Pharmacopœia shall be published in 1905, or whether in some emergency the Convention should be reconvened.

Time is failing, but I think it must be evident to everyone without further discussion that it is essential to separate that which is business and financial from that which is scientific and practical pharmacy; and that this Convention can best attain this object by having two distinct Committees.

Having adopted Constitution and By-Laws, appointed officers and the two Committees, this Convention should give instruction to the officers and the two Committees together to incorporate the Convention. I am told by eminent counsel that there is no legal difficulty in the way, only it must be clearly stated in the Constitution that a delegate from one of the bodies entitled under the Constitution to representation becomes by virtue of his election as a delegate a member of the incorporated body, and loses his membership when he ceases to be a delegate.

Finally, gentlemen of this Convention, a word and I have finished. As the American nation of 1800 seems to us to have been but a handful of seed from whose growth we are the fruit, so will those who meet here in the year two thousand think of the American people of to-day as a small body from which they have themselves sprung. We live but for the moment; one hundred years from now only the greatest of us will remain as fading memories; as men whose records have been so over-written on the palimpsest of time that only here and there can a sentence be deciphered. So it ever has been and so it ever shall be with the human race; men come and go and are not; but though the worker disappears and is forgotten the work lives on. Our fathers labored and we have entered into their labors. Let us see to it that preserving in its essential lines that which has come to us, and adding to it in our day and generation as strength is given us, we may leave for the coming century good work and true, which shall remain as the abiding though unrecognized witness of our earnest living.

THE TREATMENT OF SUPPURATIVE OTITIS MEDIA IN YOUNG CHILDREN.*

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THIS subject is presented in order to bring about the discussion of an important pathologic condition and not because I myself have anything especially new or novel to offer in the way of its treatment. From my own experience I am convinced that the average practitioner does not yet sufficiently realize the possible dangers to the child which lie in a suppurative ear. If he did there would not be as many suppurative ears in young children, which starting as acute conditions, become chronic and last weeks, months and years.

That their number is very large it is needless before this Society to attempt to prove; our personal experience is proof sufficient. I think we shall also be as ready to agree that they are frequently overlooked. Rasch[1] reports from the hospital in Copenhagen that in 61 necropsies evidences of otitis media were found in 61 of the children; of this number 32 had true abscesses in both ears. Ponfick[2] reports that in 100 consecutive autopsies of children dying from various diseases, the ears of only 9 per cent. were normal; in the remaining 91 per cent. a well marked otitis media of a purulent or muco-purulent character was present. While these statistics are those of foundling hospitals, where the children frequently are, or have been poorly nourished, and are not, therefore, to be compared absolutely with the statistics which would follow from an equal number of children taken from an ordinary community, they nevertheless show that otitis media purulenta is very common and is not estimated at its true importance. The recent valuable paper of Pomeroy[3] shows how possible and even easy it is to overlook acute otitis media in the young child previous to the time of any discharge. In many of these cases the objective symptoms

*A paper presented to the American Laryngological, Rhinological and Otological Society (Eastern Section) at its annual meeting in Philadelphia, February 17, 1900.

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pointing to the ear are but few, and frequently vague or entirely masked. Even after suppuration is apparent the condition is frequently either entirely overlooked (and this was the fact in many of the cases the statistics of which I have quoted), made light of, or dismissed with the injunction to the parent to keep the child's ears clean.

Those of us who see a good many of these cases know how effectively the cleaning process is carried out. Usually it is a complete failure. We have all examined the ears that the mother tells us have just been cleansed only to find in the canal or tympanic cavity, or both, pus of so foul an odor as to be unbearable to any self-respecting nostril.

The causes of these suppurating ears in young children are various, but may be fairly easily classified into those dependent on the exanthemata and other contagious diseases; those dependent on positive pathologic processes in the pharynx and nasopharynx, as adenoids and enlarged tonsils; those dependent on the extension of catarrhal processes of the nose and nasopharynx, and those due to colds and exposure, starting as a simple acute otitis media of local origin. The child goes through the stages of an acute or sub-acute otitis, with earache, deafness and other symptoms belonging to the condition, followed by a discharge, at first serous, then sero-purulent and finally purulent. With the cessation of pain the matter is frequently forgotten by both physician and parent, and sometimes the physician's attention is not called to the case at all. When it is, some very vague directions are given as to the necessity of keeping the ear clean. The cleaning process is attempted, but the discharge continuing, becoming foul and the child being increasingly deaf, the specialist's aid is after a longer or shorter time sought. The ear is then thoroughly cleansed and appropriate treatment instituted, which, if carried out systematically, usually produces rapid and brilliant results; although it is also true that in the occasional case the suppuration continues in spite of our best endeavors, and before a cure is effected the aid of more radical surgery has to be invoked. To be effective the treatment must be frequent and the tympanic cavity kept free from any accumulation of pus and micro-organisms.

How is this to be brought about? All must have felt, as I have felt, the inability of the mother to bring the child to the physician's office for the daily treatment, not only on account of the expense, but also because of the trouble of taking the child daily to the office, to say nothing of the time consumed. Any one who has ever waited from one to three hours, in the office of some busy physician, for his or her turn knows that this question of the time consumed has its weight. How, then, can we teach the mothers or nurses of our patients so that they can intelligently care for the ear, whose treatment we have begun, and properly assist in the endeavor to restore it to health?

Premising that I am now chiefly concerned with the *strictly local treatment* of suppurative otitis, although in each case regarding the constitutional treatment as of the greatest importance, always to be carefully looked after and appropriate measures instituted, I will outline the method I am in the habit of using, which varies a little according to the length of time the suppuration has lasted and the degree of damage which the ear has already sustained. If the suppuration has lasted some time, the discharge very foul and caries of the tympanic structures already marked, I syringe the ear thoroughly with warm sterile water or with a solution of 1 to 5000 bichloride of mercury until all debris has been removed. The canal is then carefully dried and the ear inspected. If there is much destruction of the tympanic membrane, I apply peroxide of hydrogen on a cotton pledget (never dropped in) as long as there is any exudation of gas, and after again drying the parts, apply on a cotton pledget a saturated solution of boracic acid in from forty to ninety per cent. of alcohol, the percentage of the alcohol depending on the age of the child and the ability to bear the pain of the alcohol. In young children I seldom use over fifty per cent. alcohol. I next dust the whole surface *lightly* with powdered boracic acid or some similarly acting powder; of late I have been using boric acid and acetanilid with good results, also at times aristol, acetanilid, or europhen combined with stearate of zinc. These are all drying powders and I regard them as very useful, although some object to the use of powders at all. A powder can, however, be used with perfect safety in the ear if care is taken not to use too much and the powder is free from lumps. Lastly, I lightly stopper the ear with a small narrow wick of iodoform or other antiseptic gauze, taking care that the gauze reaches to the bottom of the canal.

If the process is more acute and the perforation small neither the peroxide of hydrogen, nor the boric-acid alcohol, nor the powder is used: but simply as thorough cleansing as possible through an opening in the drum membrane large enough to ensure drainage, with the insertion of gauze-wicking or cotton pledgets frequently changed in the manner to be described. If there is the slightest doubt as to the opening being large enough, a free incision is made at the posterior inferior quadrant of the drum membrane. This will often be found advantageous even when drainage is apparently good.

The office treatment is now apparently ended but the most important thing is yet to come, namely, the instruction of the mother or the attendant in the home treatment. This I regard as important as, if not more so than, my own and without which my endeavors are very likely to fail. With the aid of a diagram I show the mother a little of the anatomy of the ear, explaining that the floor of the middle-ear cavity is lower than the external outlet and that consequently natural drainage must of necessity be very poor. I tell her that drainage is what is wanted and

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that it is absolutely essential, inasmuch as the matter retained in the ear is very destructive and is liable to produce permanent deafness or even death from extension to the neighboring regions of the brain and the mastoid process; and not infrequently I show her on a temporal bone how close the floor of the brain is to the roof of the tympanic cavity. I explain the necessity of keeping the ear clean, clear to the bottom of the tympanic cavity and show her that the wad of cotton which she had stuffed into the ear when she came serves only to retain the secretions, while being absolutely worthless as far as any drainage is concerned; that in effect it as completely locks up the secretions as though a cork had been inserted. She is now ready to receive directions for the home treatment and sufficiently interested and impressed to try and follow instructions to the letter. While I much prefer gauze drainage to any other, where it can be properly inserted, I do not as a rule order it for the average case simply because it is impossible to properly place gauze wicking in the ear without a suitable forceps and under fairly good illumination, neither of which conditions are apt to obtain in the home.

I take a knitting needle with the ends roughened by a file and carefully show the mother how to loosely but firmly wind a piece of cotton on the same with the end projecting a quarter to half an inch beyond the needle tip, far enough so that no harm can come to the ear from its use when gently inserted. A tapering wooden toothpick or any long, slender object with roughened surface will answer as well. To avoid the slightest possibility of doing any damage with the applicator I instruct the mother to hold the applicator so that it can not possibly be pushed into the ear beyond a safe distance and show her what this distance is. Taking the child before a good light I illustrate how drawing the cartilage of the ear backward straightens the canal, and show her how to insert this cotton pledget to the bottom of the canal, warning her against the most frequent cause of failure, the taking of too large a piece. I tell her on the following day, or as soon as the wick put in by me is soaked through, that she is to withdraw it and then wipe out the canal way to the bottom, as taught. This is continued with fresh pledgets until the tip of the pledget is no longer moist. She is then instructed to take as much of the powder ordered for her as will go on the tip of a small penknife and, through a bit of rubber or glass tubing, blow the same into the ear. If the perforation is a good-sized one and considerable caries is present, I frequently have the boracic-acid alcohol drops also used at home. Finally, the mother inserts a small narrow pledget deep in the ear and withdrawing her needle with a backward twisting motion leaves the cotton in the ear. As, unlike the wicking, this will not withdraw the fluid with as ready capillarity, I order this procedure done from one to three times a day, according to the severity and activity of the process present and direct that the child be brought to me in from three to seven days. No home syringing is allowed in this method and I am certain that the results are more rapid and satisfactory than when I directed that home syringing be done, although I know that men of much larger experience than myself advise the frequent use of the syringe and regard the method I have outlined as unsatisfactory. In my experience home syringing is seldom satisfactorily done, nor is the canal properly dried afterward; and if not dried thoroughly the remaining fluid is a damage rather than an advantage since it favors the more rapid growth of micro-organisms. Again, the syringe used is frequently not a proper one for the purpose, nor can the very poor always buy the right kind of syringe.

Be that as it may, the method here outlined, when carried out in all its details, is applicable to rich and poor alike and is productive of good results; the details are essential to its success. In a word, cleanse and treat the ear yourself as may be necessary and have that treatment made efficient by the aid of thorough home treatment. I may add that I treat all discharging ears on about the same principle, acute as well as chronic, the details varying with the degree of involvement of tympanic structures and the amount and character of the discharge; as before stated, the peroxide, boracic-acid alcohol and powder being omitted in the acute cases.

Nothing here mentioned is to be considered as opposed to such operative measures as may be needed for the correction of nasal, nasopharyngeal, or pharyngeal conditions which are causative or contributory. These should receive early attention. The more chronic cases and those with complications, as cholesteatomata and marked destruction of the ossicles, will have to be directly considered from the operative standpoint. Even these cases are frequently susceptible of great improvement when treated as I have indicated, and those refusing operation so much benefited as to apparently make an operation seem to be unnecessary.

After several years' observation of a large number of cases I am opposed to much syringing in running ears, whether acute or chronic. It is at times necessary and no doubt there are cases where the syringing produces more rapid results than the dry treatment; I prefer, however, in the main the dry method. I would teach this method in all its details if it were possible to every practitioner, and when a running ear comes under his observation would have him teach mother or nurse how to keep it drained. I prefer gauze drainage, changed as often as soaked through, where skilled supervision can be had, but where it cannot, and these are the great majority of all cases seen by us, I believe that any fairly intelligent person with no more armamentarium than some absorbent cotton and an applicator, either knitting-needle, tooth-pick or something similar, and some antiseptic powder, and this last is not absolutely necessary, can keep

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any suppurating ear nearly, if not quite, clean. In most cases the discharge will rapidly subside and many an ear may be saved. Wherever there is discharge of fluid from the ear, what is wanted is drainage. Whatever method will best bring that about is the best treatment.

It may be asked what is to be done with the unruly child, the child who will not allow its ear to be treated? I can only answer by remarking that it all depends on how the parents look at the matter. If the permanent well-being of the child is to take precedence over his present wishes then a way can be found to follow out the instructions given. Most children, after finding that the procedure is not a painful one, will readily permit it without making much fuss. The exceptional child must be held. With the aid of a second person, who will hold the child's head firmly against the side of the body, the other person can do the dressing readily enough. The arm thrown around the head will hold it firmly, whereas attempts to hold a child's head by putting one hand in front and one behind are generally failures.

84 North Main Street.

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CLINICAL LECTURE.

FIBROID TUMOR OF UTERUS; ENTEROPTOSIS; RETROVERSION; RUPTURED PERINEUM—OPERATIONS—RECOVERY.

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Fibroid Tumor of Uterus.—This patient is fifty-one years of age; married; has seven children, the last born fourteen years ago. She has had the trouble of which she complains for about a year. The symptoms are, first, flowing, which is at times very severe, clots sometimes passing. As a general thing she uses five napkins in twenty-four hours, which is the mark of rather hard flowing. The flowing is worse some days than others. Sometimes it lasts a week; this summer it continued steadily for two months. She is flowing less since she entered the hospital.

The next symptom is pain in the back and in the groins, especially on the right side. She cannot exercise because it "hurts" her. She gets out of breath easily, as in walking up stairs. Some days she is troubled by having to pass water too frequently; she often has to get up during the night for this purpose. Her bowels are constipated, and laxatives are a necessity. The patient has good color, is not thin, but looks quite robust. However, in these cases of pelvic trouble appearances are apt to be deceptive, so that one can rarely tell much from the expression and general looks of such a patient. From what she tells us, we are led to suspect that one of four different conditions may be present, *viz.*, fibroid tumor, carcinoma, endometritis, or mucous polypus.

Her flowing is *not* due, by the way, to the approach of the menopause as some of you may think. The menopause is the normal cessation of menstruation; it is not a disease, but a physiological process. It is a very common error to conclude that, because a woman's menopause is approaching, she will flow more than usual. The opposite should be the case. But a woman with some disease of the uterus which produces flowing will be apt to flow more at this time. Thus we have four conditions which may, under these circumstances, produce the symptoms of which the patient complains, a fibroid growth, a malignant growth, a polyp (and polypi occur very frequently at this period of life) or an endometritis. How can we decide between the four? The only sure way is by examination. When I made my examination I found that she had a tumor, probably as large as a baby's head, to the right side rather than to the left. This is firmly attached to the uterus and not tender. It presents all the evidences of a fibroid growth.

Suppose there were no fibroid and no disease of the cervix, and we wanted to determine if there were cancer of the body. We would curette the uterus and have the scrapings examined under the microscope. We could then differentiate between a malignant growth and an endometritis. If we do not find evidences of endometritis or of carcinoma, we can decide if it be a polyp by passing the finger into the uterus and simply feeling the growth, first, if necessary, dilating the cervix. This exploration of the interior of the uterus is too important to be neglected in doubtful cases. This woman has a fibroid. I want to determine if she can bear an operation. She is still flowing, which renders her rather anemic. She is weak; gets out of breath easily; her pulse is rapid, about 90; it sometimes drops to 80 or less, and then again rises to 90 or more. Another point of importance to be considered in deciding the question of operation is the condition of the urine. When she came here the amount was small, of low specific gravity, 1014, and contained traces of albumin, a few leucocytes, blood-cells, and epithelial cells. The albumin and the small quantity of urine secreted made us think it best to treat her for a while preparatory to giving her an anesthetic. With albumin in the urine, it is necessary before a long operation to get the kidneys into a healthy condition. Hence she has been given the treatment usual in such cases, daily hot-air baths, alkalies, and plenty of water to drink, combined with tonics. In two weeks her urinary secretion has increased markedly in amount; its specific gravity is higher, 1020; the albumin is diminished, although there is still a faint trace of it; her heart is better, and her gen-

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eral health is improved; so I think I can safely operate in a few days.

The patient, being fifty-five years old, should have had the change of life some time since, but, as is so often the case in women with fibroids, it has held off. If it should come, she might be relieved of all her symptoms without operation. She is anxious to have an operation and I shall do a hysterectomy, operating through the abdomen, as the tumor is too large to take out easily by the vagina. The results in these cases are almost always satisfactory. In this case I think the patient will have the best chance if we anesthetize her with chloroform. Very likely I shall decide to begin with ether and to continue the anesthetization after a few minutes, with chloroform. Most of the deaths from chloroform occur in the stage of excitement during the first two or three minutes; and the injury to the kidneys from ether comes from its long-continued use. Thus both risks are diminished by giving the ether for a short time first, and then going on with chloroform.[1]

Enteroptosis; Retroversion; Ruptured Perineum.—The second patient is forty years old, and the mother of five children, having also had three miscarriages. The forceps have always been used at the birth of her children. She has been ill for the last two years. Her principal symptoms are dragging and bearing-down pains, pain across the back, and in the top of her head. She is dizzy at times and sometimes falls down unconscious. She is troubled with palpitation. Her monthly periods have been disturbed for the last two years. They are anticipated each time by a slight flow, which lasts four or five days. Four months ago the flow lasted a month. It has never been excessive in amount, rather scanty than otherwise, but has increased during her illness. Her digestion is faulty, and for the last four weeks has been worse.

A careful examination of the abdomen reveals quite a serious state of affairs. There is a general falling-down of all the abdominal viscera. The kidney on the right side is loose, falling almost to the pelvis, and is very tender. The transverse colon is greatly prolapsed. It is very commonly displaced. I find it below the umbilicus in probably fifty per cent. of the cases upon which I perform abdominal section. The vaginal examination also shows various affections of the pelvis viscera. I find a ruptured perineum, a badly lacerated cervix, retroversion of the uterus, with induration and hardening around the cervix due to the laceration. It is difficult to say what was the starting-point of the patient's troubles, but they probably followed confinement and the lacerations. The heart symptoms, the digestive disorder, etc., are all functional. There is no organic trouble with the heart: the pulse is good. There is a great quantity of pus in her urine, although the amount of urine is fair, and the specific gravity about normal. There is a faint trace of albumin so I shall have her anesthetized with chloroform instead of ether.

I propose this morning to curette the uterus, close the perineum, and repair the cervix, and perhaps do Alexander's operation. It is possible I may fasten up the displaced kidney.[1] In one case I did seven operations at one sitting; I curetted the uterus, closed the cervix, sewed up the anterior vaginal wall, repaired the perineum, opened the abdomen, removed a fibroid growth, and sewed the uterus up to the anterior abdominal wall. To have done one operation at a time and waited for the patient to get well before doing the next, would have kept her in the hospital five or six months. As it was, she was out in less than a month. The sewing-up of the kidney is not, of course, a strictly gynecological operation, but, as it was largely advocated by the gynecological surgeons, it has come to be considered a part of their work.

[1] This patient was operated on successfully, and returned to her home in three and one-half weeks.

[1] Operations on the endometrium, the anterior vaginal wall, cervix, perineum, kidney and round ligaments were done at one sitting, with perfect recovery.

MEDICAL PROGRESS.

Sympathetic Ophthalmia.—Gifford (*Annals of Ophthal.*, Vol. IX., No. 1) relates the histories of two cases of sympathetic inflammation following a perforating injury in the first eye, and one mild case following a cataract extraction. By medicinal treatment, together with enucleation of the injured eye, he was successful in retaining useful vision in the sympathizing eye in all the cases. In all there was an absence of the premonitary symptoms, such as photophobia, ciliary injection and asthenopia, which, according to the text-books, are warnings of danger. In fact, these signs of sympathetic irritation are rarely followed by true inflammation. In the three cases reported the uninjured eye felt perfectly well up to the time when the appearance of inflammatory products showed that the inflammation was present and under way to such an extent that even enucleation of the injured eye did not stay its progress. A point of the utmost importance for the early recognition of the disease, particularly when the patient is not under the constant observation of an ophthalmologist, is the performance daily of tests of the acuteness of vision. Gifford has treated earlier cases with atropine, hot applications and mercurial inunctions, in the usual way, without perceptible benefit. The later cases were treated with salicylate of soda, which in one instance was increased to 180 grains in the twenty-four hours. The results obtained by this treatment were very good. It is still an open question whether the inflammation reaches the second eye through the medium of the optic-nerve trunk and chiasm, as first suggested by Arlt, or possibly by Mackenzie, whose expression on this point was ambiguous; or through the intervaginal and subducal spaces, as suggested by Leber and Deutschmann; or along the vessels

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penetrating the eye and passing through the orbit to the cranial cavity, as first suggested by Gifford, and later by Gaget; or through the general circulation, as suggested by Berlin.

Intubation of the Larynx.—In a series of seventy-five cases of laryngeal stenosis, in which he has employed the operation of intubation of the larynx, J. W. West (*Am. Gyn. and Obstet. Jour.*, April, 1900) has had a mortality of 43⅓ per cent., thirty-four of the seventy-five cases having died. The ages of the cases ranged from four months to sixty-two years. He presents a table showing the ages of the cases, the number at each age, and the mortality at each age. Out of five cases under two years of age, three recovered. In thirteen cases seven years old only five cases recovered, but of the eight which died, one died from an organic heart lesion, and two from profound diphtheritic poisoning. In the two last cases the intubation was done simply to relieve the dyspnea during the few hours of life which remained. In one case the obstruction causing the dyspnea was due to erysipelas. In two cases the dyspnea was due to laryngitis following an acute attack of measles, and the other seventy-three were cases of laryngeal diphtheria. Of the two cases following measles, one died. In the one which recovered it was found necessary to wear the tube for two weeks. The youngest patients to recover were two, each thirteen months old, and one fourteen months. The writer presents brief notes of three of the cases, and without describing the technic of the operation, emphasizes the fact that the manipulation must be done as quickly as possible, and that the erect position of the patient is most favorable to a rapid introduction of the tube. Care must be taken not to bruise or wound any of the tissues during the operation. The average time of leaving the tube in position in the cases that recovered was six days. When the dyspnea occurs at or near the onset of the disease it is usually necessary to keep the tube in position longer than in cases in which it occurs later. Intubation should be resorted to without delay when antitoxin and other remedies have failed to bring about speedy relief from dyspnea.

Treatment of Gonorrheal Epididymitis.—A. Spiegelhauer *Monatshft. f. prak. Dermatolog.*, April 15, 1900) applies hot aluminum-acetate solution three times daily to the testicle which he supports by means of a firmly-fitting suspensory. The internal treatment consists in the use of sodium salicylate. This method is said to yield much better results than the time-honored cold applications.

Thoracentesis.—The time for removing the fluid from the chest in pleurisy with effusion depends more on the condition of the circulation and respiration than on the physical signs, says H. Desplato (*Jour. des Sc. méd. de Lille*, April 7, 1900). During the first two or three weeks tapping should be avoided unless the fluid accumulates rapidly, or the patient has attacks of dyspnea without apparent cause, or is short of breath on exertion. If the fluid has ceased to accumulate, draw off a part or all and use active purgation, and the disease will be much shortened. The liquid should be withdrawn slowly to allow time for the lung to unfold itself and for the other organs to accommodate themselves to the changed intrathoracic pressure. Accidents are due either to passing the trocar into lung, liver, a tumor, etc., a mishap which should easily be avoided, or to the diminution of the intrathoracic tension, causing cough, albuminous expectoration, hemoptysis, pain and dyspnea. The object of thoracentesis is to permit the lung to expand. If the lung is bound down by adhesions, or is the seat of a pneumonia, or a tuberculous infiltration or a tumor, if it contains cavities, or is emphysematous, or for any other reason has lost its elasticity, it cannot expand, and the negative pressure only serves to increase the difficulty of respiration. Not more than 1200 c.c. should be removed at one time; this is always enough to relieve the urgent symptoms and often allows the rest of the fluid to be rapidly absorbed. If necessary the tapping may be repeated in two or three days. A valuable adjunct to the thoracentesis is massage of the thorax, as this promotes the blood and lymph circulation and stirs up reactionary phenomena in the pleura. Electricity also by acting on the muscles of the region tends to produce the same results.

Acute Gonorrhea.—Purulent discharges from the urethra in typhoid fever, the secondary stage of syphilis, and as a result of irritation, are met with, but the usual cause of urethritis is undoubtedly the gonococcus of Neisser. The earliest symptoms, according to A. E. Garrow (*Montreal Med. Jour.*, March, 1900), are heat and itching in the glans, tickling and subsequent swelling at the meatus, increased tension in the penis, frequent micturition, ardor urinae, and a thin, greyish, watery discharge. Loss of appetite, general malaise, and a haggard appearance depend on the character of the nights. A seldom diagnosticated, but not uncommon complication, is spermatocystitis which is manifested by stabbing pain in the perineum, worse on urinating or defecting and radiating to anal and crural regions; rectal examination reveals a tender, nodular, sausage-shaped mass extending upward from the prostate and best outlined when the bladder is full. The treatment of this condition is to empty the seminal vesicles by pressure or massage, irrigate the posterior urethra and bladder, and treat otherwise as for acute prostatitis. For acute gonorrhea use hot irrigations of large quantities of bichloride or potassium permanganate solution, and follow by an injection of one-half to two per cent. protargol which is retained fifteen to thirty minutes. Irrigate twice daily during the first few days, then once a day. Internally, salol, ten grains three times a day, with cubebs, alkaline diuretics, anodynes and arterial sedatives. When the morning drop or gonor-

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rheal threads persist, pencil with silver nitrate and apply 25 to 40 per cent. boroglyceride. For posterior acute urethritis order rest in bed, hot hip-baths and hot irrigations, have patient urinate with penis in hot water, and give injections of protargol once a day. Salol and Dover's powder relieve vesical tenesmus and an opium suppository or morphine may be required to secure rest at night.

After-Treatment of Peritoneal Section.—Henry T. Byford (*Am. Gyn. and Obstet. Jour.*, April, 1900) employs the following treatment after all cases of peritoneal section. The object of the treatment is to systematically induce peristaltic action as soon as possible after a peritoneal section for the purpose of preventing intestinal paralysis and adhesions. The treatment is begun by giving the patient four drams of fluid extract of cascara, or some equivalent, two hours before the operation. In those cases in which adhesions were separated and raw surfaces left, a high glycerin enema is given before the patient is taken from the table. In all cases dram doses of sulphate of magnesia are given every hour from the time the patient awakes after the operation, and a high glycerin and water enema—two to four ounces—every two hours, beginning eight hours after. This treatment must not be discontinued until the patient passes flatus not only with the enemas but also freely between enemas. In order to maintain frequent peristalsis and a daily evacuation of the bowels after the first days, the writer gives two drams of sulphate of magnesia or two or three ounces of Hunyadi water every night and morning for two weeks, regulating the size of the doses according to their effect. The treatment is sometimes modified, if the patient needs a stimulant, by adding an ounce of whiskey to the enema given on the operating-table; if much blood has been lost, a high beef tea enema is given instead and is repeated every four hours. Strong beef tea enemata usually cause vigorous peristalsis within twenty-four hours. Instead of the sulphate of magnesia small doses of Hunyadi water or liquid citrate of magnesia, or of the granular citrate may be given. Instead of the cascara, the writer often gives syrup of figs and when the glycerin does not act well, ox-gall enemata are substituted. As the result of this treatment Byford finds that there are practically no temperature cases, no crying for morphine, no bloating, no fixed pains, and seldom any subsequent pain in the ovarian region even when adherent appendages have been removed. The convalescence is more rapid and the patient more comfortable during it. In the simpler cases of peritoneal section treated in this manner the patient can, without harm, if the abdominal wound is entirely healed and well supported, get out of bed in ten or twelve days.

Spastic Esophageal Closure in Urinary Intoxication.—In cases of intoxication by means of retained urine, it oftens happens that disorders of the digestive system arise resulting therefrom. These disorders are usually the accompaniment of the chronic form of retention. S. Grosglik of Warsaw reports an interesting case in point. (*Centralbl. f d. Krankh. d. Harn und Sexual-Org.*, B. xi. Heft. 2), in which specialists on internal diseases had made incorrect diagnoses of carcinoma of the stomach or intestine—such diagnoses depending upon the extreme emaciation and cachexia present. All kinds of internal medication consistent with the incorrect diagnosis were tried, but uniformly without success in such cases. The symptoms most striking are esophageal disorders, vomiting and diarrhea, and the combination of all three very soon conduce to the patient's extreme decline and emaciation. But the most important factor in this cachexia is the difficulty in swallowing solid food—the most distressing of all symptoms for the patient. French literature aptly terms this general condition as "*grande dyspepsie urinaire.*" The cause of this difficulty in swallowing is the marked dryness of the buccal cavity due to diminished glandular activity, hence the term "*dysphagie buccale.*" In his own case, Grosglik found the localization to be in the lower segment of the esophagus, which had led others to make the diagnosis of esophageal carcinoma. The condition was one that followed poor catheterization of the bladder, the symptoms of stenosis coming on very quickly thereafter. This rapidity of onset, determined Grosglik, could hardly have been due to carcinoma; and the combination of symptoms, seemingly uremic, suggested to him the possibility of a urinary cachexia rather than a carcinomatous one. Daily irrigations of the bladder with nitrate of silver, 1-2000, together with tentative feeding of fluids by mouth and rectal alimentation brought the patient around within two weeks. At the end of that time not only fluids, but soft diet could easily be administered per os and the patient began to nourish himself. The septic condition of the urine also constantly diminished until within twenty days the patient was discharged cured. The case proved interesting from the fact that it was the first one in which a spastic stenosis of the esophagus had been seen depending upon urinary intoxication. Internal medication is absolutely nugatory in such cases. The fact that the spasm lasted for so long a time and disappeared synchronously with the clearing of the urine proves that it was not a spontaneous closure, but one dependent upon urinary infection.

Meteorism in Typhoid.—W. E. Tschernow, (*Klin. therap. Woch.*, April 22, 1900) has obtained gratifying results from the local use of ice in combating tympanites in typhoid. The abnormal distention being due to excessive gas-formation and to paresis of the neuromotor apparatus of the intestine, owing to the infiltration of its walls with the product of abnormal fermentation, it follows that in case of diarrhea intestinal antiseptics would also be indicated. The author has found these drugs of good service,

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and, contrary to recent experimental evidence, thinks they are well able to interfere with excessive putrefaction. In case of tympanites with constipation in typhoid, he recommends enemata of turpentine or asafetida, and advises direct puncture of the gut when the meteorism is so marked as to interfere with heart and lungs.

Secondary Suture of Brachial Plexus.—W. Thorburn (*Brit. Med. Jour.*, May 5, 1900) publishes a unique case of suture of the brachial plexus seven and one-half months after its traumatic rupture. There was complete paralysis and anesthesia of the limb with marked trophic changes. There was sufficient evidence to show that the nerves were not torn from the cord. At the time of operation the cicatrix between the ruptured ends was excised, and the various nerve-trunks sutured as nearly as possible in their old relations. After six and one-half months, without special treatment, the various functions began to reappear and have improved moderately up to the present time, four years after operation. This proves that the plexus is capable of repair after complete resection. The case would have shown more improvement with systematic massage and attention. This is the first reported case of suture so long after the primary injury. Its comparative success holds out hope for many limbs which would otherwise be condemned to amputation as useless encumbrances. In cases in which the nerves are torn from the cord operation is hopeless.

Ethyl Chloride as an Anesthetic.—To the general rule that no anesthetic is absolutely safe, ethyl chloride makes no exception, according to G. Lotheisen (*Münch. med. Woch.*, May 1, 1900). Opisthotonos, great excitation, cyanosis and asphyxia have followed its use. On the whole, however, the author's results were satisfying, in that the mortality did not exceed that of chloroform and, he thinks, with greater experience can be still further reduced. The stage of anesthesia is rapidly reached, recovery is prompt and kidneys, heart or lungs do not seem to suffer. In case of alcoholics it is good to precede the inhalations with an injection of heroin. During protracted operations, vomiting occasionally occurs, but is never so severe as with ether or chloroform. Narcosis should invariably be begun with small amounts and as soon as the slightest degree of cyanosis or excitement appears, the inhaler should be removed and the face vigorously rubbed with a cold towel.

Vasectomy.—R. Harrison (*Lancet*, May 5, 1900) says that vasectomy usually causes shrinkage of the prostate, except when carcinomatous, adenomatous or fibroid changes exist. The operation itself is slight and does no harm even in those cases in which little good seems to result. After following a number of cases for some time, he was able to demonstrate that the usual effect of vasectomy is shrinkage of the prostate; that although this shrinkage affords readier access to the bladder, it does not necessarily restore natural micturition, this failure being due to structural bladder changes resulting from the long-continued obstruction; these changes consist of varying grades of sacculation and trabeculation permanently damaging the vesical expulsive power. It is a most interesting fact that a comparatively small sacculation can throw the whole expulsive mechanism out of gear. Therefore, when vasectomy fails to give the desired relief one must look to structural bladder changes and, since these are the result of prolonged obstruction, the natural indication would be to shrink the prostate soon after the onset of obstructive symptoms. The best results of vasectomy have been obtained in cases on the border-line of the development of these structural changes, which continued catheterization does not remove. Vasectomy does not destroy sexual power as does castration; it is most useful in the earlier stages of prostatic hypertrophy; it is not useful in cases of fibroid degeneration or malignant change; it renders catheterism easier where changes in the bladder render normal micturition impossible even after prostatic shrinkage.

The Therapeutic Value of Iodipin.—All the preparations of iodine heretofore in use have the disadvantage of causing the train of symptoms known collectively as "iodism" before the particular drug administered has had the chance to be therapeutically effective. The cause of these symptoms may be ascribed to the rapid separation of free iodine from its compounds, notably the potassium iodide, and to its attacking the mucous membranes of the stomach and intestinal tract. J. W. Frieser (*Wiener klin. Rundschau*, April 22, 1900) describes his experience with a new iodine preparation, originally used by H. Winternitz and called "iodipin," which has none of the above mentioned disagreeable effects. This drug is manufactured by E. Merk in Darmstadt. In Frieser's practice, the result of its use was always a good one; it could be depended upon; it was better borne by the patient and decidedly more acceptable to him than potassium iodide; iodism or gastric disturbances could never be shown as a concomitant. When the patients objected to take iodipin on account of its oily taste, it was given subcutaneously or per rectum. Especially in lues was the result of iodipin noteworthy, in many cases being better even than the mercurials. These good results obtained by the use of iodipin are to be accredited to the fact of its slow decomposition within the body, the iodine being given off in all probability in the blood itself and that only gradually. This insures the gastro-intestinal tract against the malign influences of the free iodine and for that reason iodipin may be administered for a prolonged time without bad constitutional effect. The fact that iodipin circulates in the body-fluids and thereby becomes deposited in the various organs allows the freed iodine to act directly upon the cell and effect its economy. Frieser demonstrated the presence of iodine in

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urine and saliva fifteen minutes after its administration per os, while after subcutaneous use it required three and four days to be detected in the same secretions. In the feces iodine was scarcely ever present. Iodipin, which is prepared from iodine and oil of sesame is to be obtained in ten and twenty-five per cent. strength. Its composition is based upon the well-known fact of the affinity of the halogens for fats. In appearance and taste it resembles oil of sesame. It is extremely stable, even months elapsing before decomposition sets in. The dose internally is two to three drams of the ten-per-cent. preparation, while per rectum as much as five to seven ounces may be given in clysms. The twenty-five-per-cent. iodipin is used exclusively for subcutaneous injection. The drug is to be given about two weeks at a time and its oily taste may best be disguised with ol. menthæ, syrup. cort, aurant. or other aromatics. For subcutaneous injection, about ten cubic centimeters are used in the gluteal region or the back. A needle of slightly larger caliber than usual is advantageous for this purpose. In order that the twenty-five-per-cent. iodipin may become less dense it is frequently warmed before using it by placing the bottle containing it in warm water. Besides using iodipin in syphilitic cases, the author has had much success with it in emphysema and asthma. Bearing in mind all the advantages of iodipin over potassium and other iodides, we are forced to consider the advent of this new preparation with the greatest favor.

Typhoid Infection without Intestinal Lesions. W. Ophüls (*N. Y. Med. Jour.*, May 12, 1900) reports another case of typhoid fever giving a positive Widal reaction in which no intestinal lesions were found at autopsy. The clinical symptoms were typical and unmistakable, the patient dying eight days after admission to the hospital in San Francisco. Thirteen cases have previously been reported, and these have been considered as proving that there are forms of typhoid infection with unusual primary localization of the virus. The author, however, believes that in his own case, as well as in several others reported previously, the organisms really came from the intestines and that the absence of anatomical lesions does not disprove this opinion. He reviews the cases showing that in many instances death came late in the disease, often as a result of a complication, and ample time had elapsed for complete recovery from any intestinal lesion. In his own case swelling and hyperplasia of the lymphatic mesentery-glands especially point to this fact.

Treatment of Hay-Fever by Suprarenal Gland.—The most constant clinical lesion of hay-fever is a nasal vasomotor paralysis with an accompanying congestion and edema, producing characteristic symptoms which are, however, never more than those of an acute inflammation of the respiratory mucous membrane. The accompanying local lesion and psychological factor which are supposed to complete the chain may be wanting. B. Douglas (*N. Y. Med. Jour.*, May 12, 1900) points out the peculiar antagonism which the action of suprarenal gland bears to the clinical symptoms of hay-fever and reviews the limited literature upon the subject. After considerable experience with the drug, he believes that no other remedy has such prompt and decided action. It may be given either internally or locally with the same result and has the enormous advantage over the ordinary remedies in leaving no after-effect. When used for a long time, both locally and internally, it may cause such a constant diminution in the nutrition of the parts that atrophy may result. Its best result is achieved in the simple cases in which the principal symptoms are those of a nasal and pharyngeal inflammation. The asthmatic tendency may be diminished, but where the asthma has already developed the drug seems to have very little effect. A combination of internal and local treatment seems to be best. A solution of six or twelve per cent. is made by shaking up the saccharated dried extract with water and decanting after one hour. This may be applied by spray every two hours till the symptoms are controlled. Internally, five-grain tablets may be administered every two hours at first, day and night, until giddiness or palpitation is observed or until the vasomotor paralysis is controlled. The dose may then be given at gradually increasing intervals. The author believes the drug to be almost a specific, but recommends the use also of other recognized adjuvants, such as digitalis, quinine, cocaine, and Clark's solution.

Premature Babies.—The clinical picture of these is characteristic, says J. D. Voorhees (*Archives of Pediatrics*, May, 1900). The head is large in proportion, the abdomen prominent, the face thin and peaked, the body jaundiced, covered with lanugo, the skin soft and delicate, wrinkled in some places or so thin that the veins shine through. The movements are very weak, the respirations irregular and superficial, and often suspended for a time. For treatment the essentials are to maintain a proper temperature, to give the proper amount and kind of nourishment, to avoid infection, and to prevent exhaustion. Without harsh methods of resuscitation, but by hot baths or light titillation, the baby is made to cry lustily, the cord tied off, its body anointed with albolene, and it is dressed, not with cotton which makes it perspire, but with a light shirt, and a napkin which is pinned over the feet and legs. It is then, without being bathed, placed in an incubator at 86° to 92° F., or kept in a properly-warmed room. Six hours after birth half to one teaspoonful of warm five- to six-per-cent. sugar-of-milk solution is given and repeated each hour. After twenty-four to thirty-six hours an equal part of breast-milk is added, not, however, from the mother's breast, but from a wet-nurse seven or eight days postpartum. The amount is increased one dram at a time until at the end of a

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week the child it taking six or eight drams each hour. If the stools are normal, increase the breast-milk and diminish the sugar solution. The food may have to be given with a dropper, but generally the child will suck a small nipple. Occasionally gavage is necessary. After a week or two the child may be tried at the mother's breast two or three times a day, and, if it does well, every two hours. These babies are liable to cyanosis and require slapping or the administration of oxygen during the attack, and a few drops of brandy in hot water every two or three hours. Always first ascertain, however, that nothing has been aspirated into the larynx. The weak lungs and gastro-enteric tract make these babies especially susceptible to infections, and to the irritation of dirt in nose, mouth, eyes, and on the skin. The babies require to have napkins changed about four times a day. They gain weight slowly, and are doing unusually well if they reach their birth-weight at the end of two or three weeks.

Postdiphtheritic Laryngeal Stenosis.—J. Rogers, Jr., (*Annals of Surgery,* May, 1900) says that for years the treatment of laryngeal stenosis following diphtheria has been most difficult and unsatisfactory. Various operative procedures have been resorted to in vain. These operations were done under the belief that the stenosis was due to exuberant granulations, or to a contracting cicatrix following ulceration. As a matter of fact, the stenosis is due to subglottic hypertrophic laryngitis, which sufficiently explains the failure of the ordinary operative procedures. The author has cured several long-standing cases by inserting as large a tube as the larynx will admit without being lacerated and leaving it in place for from two to three months, removing it perhaps once for cleansing purposes. The tube must be of hard rubber, as the metal tubes become incrusted and cause ulceration.

Pleurisy Complicating Appendicitis.—From the consideration of a number of cases, M. Dieulafoy (*Bull. de l'Acad. de Méd.,* April 16, 1900) draws the following conclusions: There is an appendicular pleurisy as there is an appendicular liver, the former, however, being propagated by adhesions and lymphatics, the latter by the portal circulation. The pleurisy is found especially in recurrent appendicitis and usually occurs a few days after the onset of the abdominal symptoms, when the latter have begun to subside. The infection passes up behind the cecum and colon, its passage being marked by pus, adhesions, and at times encysted collections; the infectious products may penetrate the liver, or form a subphrenic abscess. They reach the pleura by perforating the diaphragm or by means of the lymphatics. Appendicular pleurisy is almost always right-sided, and may be confused with hepatic or subdiaphragmatic abscess. There are sharp pains in the right hypochondriac region and thorax, radiating toward the shoulder, a dry cough and intense dyspnea. Sometimes it is a dry pleurisy, sometimes an ordinary pleurisy with effusion, the infection being reduced to a minimum; but in most cases it is an empyema with a turbid, fetid and putrid collection. Auscultation and percussion give signs of great effusion, with sometimes evidence of pneumothorax due to the disengagement of gas by putrefactive bacteria. The prognosis is serious, depending upon the general condition, the state of the pulse, and the degree of enfeeblement. A fetid and putrid right pleurisy should always lead to an inquiry about appendicular signs in the preceding week or two. Surgical intervention should be prompt, and it may be necessary to operate for the appendicitis as well as for the empyema. The proper treatment is, however, prophylactic, and to this end the appendix should be removed in all cases of appendicitis, so that the numberless dangers and complications of this affection may be prevented.

Enteroptosis.—The cases of enteroptosis, writes Hector Maillart (*Revue méd. de la Suisse Romande,* April 20, 1900), may be divided into two groups, *viz.:* The hereditary, appearing in youth and producing permanent invalidism or rebellious neurasthenia, with persistently recurring stomach derangements, constipation, and headache; and the acquired, evidently due to purely mechanical conditions, usually beginning later in life and easily diagnosticated. Every physician knows that phthisis and cardiac disease are unfavorably influenced by pregnancy, but it is not well known that pregnancy may produce a temporary, and even a permanent, cure of enteroptosis. The enlarging uterus increases the intra-abdominal tension, and at the same time pushes back into place the organs which have fallen by gravity. The digestive functions improve, the neurotic condition disappears, and the patients gain flesh and vigor. After childbirth, when up and about, a binder should be applied over the lower part of the abdomen, and it should be made broader than below so as to support the abdomen without compressing it. The wearing of corsets must be avoided, and the weight of skirts should be borne by the shoulders.

Treatment of Muscular Rheumatism.—In alleviating the sufferings of both acute and chronic muscular rheumatism the physician is often handicapped by want of proper appliances to carry out the more extensive hydrotherapeutic measures, while, on the other hand, internal medication too often fails to allow him to dispense with the former. In injections of sodium iodate, S. Otto (*Therap. Monatshft.,* April, 1900) has found a simple procedure well able to replace the more elaborate ones. A single injection of 7.5 to 15 grains is usually followed by prompt relief. The drug should be introduced at the site of pain in the form of a five-per-cent. solution. Great care should be taken to have both salt and solution as fresh as possible, since the presence of free iodine causes much irritation.

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SATURDAY, MAY 19, 1900.

THE STAMPING-OUT OF SCIENTIFIC ADVANCE IN PSYCHIATRY.

THE progress of scientific research in psychiatry seems to be extremely diverse and tortuous. No sooner is an institution organized and making progress in the line of psychiatric research than a heavy iron hand is put on its very heartstrings with the intent to crush out its activity and life. Far be it from us to accuse the psychiatric profession as a whole of this terrible, if not criminal, work of oppression and suppression of scientific progress. No profession is as eager as the psychiatric to welcome scientific enquiry, but those who interfere with or arrest psychiatric research are not sufficiently stigmatized and branded by their psychiatric brethren. Whether this mercy to those who deliberately crush science is due to the lack of strength of collective professional opinion, or to the lenient spirit acquired by long experience in an atmosphere of intellectual bizarreness and moral aberration, it is certainly hard to tell. One thing is sure that such a state of things is extremely unfortunate and greatly to be regretted. Still more is it to be regretted when attacks in scientific research are committed by a man who, if he is not, still claims to be the chief and leader of the psychiatric profession in the United States.

As an illustration may be taken the present condition of the Pathological Institute of the New York State Hospitals. The psychiatric profession has put its hopes on the Pathological Institute, and not without reason. In this country and abroad the work of the Institute is hailed with delight. Important guiding principles for the work were laid out by the Director; methods for psychiatry were being elaborated by its staff of scientists and work of high scientific merit were being conducted and being depicted in the Archives; the Institute as a whole was fairly under way, when suddenly the Commission in Lunacy, of which Dr. Peter Wise is the President, bethought itself of the expediency of arresting the scientific work of the Institute, claiming its work to be "improper" and, to abet and assist in this destructive work, calling upon a committee of men that are unfit to judge of the scientific work of the Institute. Two of the committee are asylum-men, while the third is a pathologist who has no reputation as a psychiatrist or as a neuropathologist. This committee openly repudiates scientific work in psychiatry carried on by the Pathological Institute, thus attempting to arrest the progress of psychiatric science, and degrading it to a condition occupied a quarter of a century ago. We hope that the psychiatric profession, and particularly the American Medico-Psychological Association guarding its interests, will be aroused to indignation over the outrage committed on a scientific psychiatric institute by a committee of men who could not or would not regard the vital importance of research work in the science of psychiatry.

THE TENEMENT-HOUSE COMMISSION AND ITS WORK.

THE problem before the admirable Tenement-House Commission, whose appointment and personnel we referred to last week, is a serious and important one. As Governor Roosevelt well said, "It is second in vital interest to no other, not even that of the City Charter." By one of the ironies of fate, the Queen City of the newest of the great nations contains some of the most crowded areas that are to be found in the civilized world. The figures are simply appalling. According to *Charities*, the official organ of the Charity Organization, not a few single blocks, in the city, house and shelter a seething popula-

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tion of fully 2000 inhabitants, and one of them, between Sixty-first and Sixty-second Streets and Tenth Avenue, reaches the deadly climax of 3978 persons. Even at the former rate this would work out a population of over 400,000 per square mile, and Mr. William Potts declares that certain areas in the city actually now contain over 1000 persons per acre—nearly double the density to be found anywhere else in the world. As this leaves barely forty square feet of service for each individual, little more than the historic six feet of English soil promised the Danish invader by the last of the Saxon kings, it needs no exercise of the imagination to conceive how not merely health, but the plainest decency, must be literally suffocated out of existence under such fearful pressure. Nor can we console ourselves with the thought that this condition is largely a heritage of the past, with its lack of legal control and its inability to conceive of the enormous rapidity of the city's growth, for, while Five Points has been wiped out and Mulberry Bend reformed, some of the worst instances of congestion are to be found in comparatively new regions of the city and in modern tenements. Indeed, many of the workers in the cause of tenement-reform declare the new sky-scraper, in spite of its imposing appearance, worse from a hygienic standpoint than the old barracks. Every room, it is true, is supposed to have its window, but when these windows open upon an air-shaft, two and a half feet wide and sixty feet in depth, their value as a source of either light or air can well be imagined. The air-shafts are far more effective as disseminators of foul smells and as huge flues, up which in case of fire the flames travel with incredible speed to every floor, than as ventilators.

Then, again, while every foot of space even in the darkest inside rooms of the old barracks was occupied they were only three or at least four stories high, and the actual number of people which they could pile upon a given ground area was less than that accommodated by the huge, high, modern building. It has come not to be a question of cubic space in bed-rooms and living-rooms, but of ground breathing-space and elbow-room, for in many of these neighborhoods the street is the only play-ground, and when six layers of budding humanity come to be discharged into them every morning, the situation becomes a serious one from this point of view alone. And as these tall insanitary types of buildings, relying upon the delusive air-shafts as a source of light and air, are being built at the rate of two thousand a year, it is high time that action of some sort be taken and the Commission has been appointed none too soon.

Although rapid transit has accomplished much in scattering the crowded thousands of workers over wider areas, the shape and surroundings of Manhattan Island are so unfortunate, from this point of view, and the population is increasing so rapidly that little permanent relief can be hoped for from this source, especially in the lower districts, and the battle must be fought out in the tenements themselves.

No member of our profession needs to be reminded of the relation of overcrowding and disease. Years ago the authorities of Berlin began collecting facts with tireless Teutonic patience and were able to show that nearly half the death-rate of the city occurred in families living in single rooms, although they constituted about one-eighteenth of the entire population. Their mortality-rate reached the astonishing pitch of 163.5 per 1000 per annum, more than eight times the normal city rate. Among families living in two rooms the rate fell to 22.5 per 1000 and to as low a figure as 7.5 in families occupying three or more rooms.

At the late International Congress upon Tuberculosis in Berlin, carefully-prepared studies showed that England headed the roll of honor among the nations and London among the cities with the lowest death-rate from tuberculosis. This was attributed chiefly to the small number of inhabitants per room and per house as compared with the Continental nations and cities, so that the connection between this disease and overcrowding is a close and constant one, as the experience of Naples has also shown. In all the over-crowded blocks alluded to in our opening paragraph the death-rate exceeds the city average in New York by from 10 to 18 per 1000 or from 50 to 85 per cent. Probably few more vivid and impressive demonstrations of this connection have been made than the disease chart of the admirable tenement-house exhibit held at Sherry's old rooms last February. In this the tenements were represented by pink color-blocks, the length of which indicated the proportion of the ground-space occupied, while the incidence of the four chief infectious diseases, tuberculosis, typhoid, scarlet fever and diphtheria, was indicated by variously-colored dots. The blocks and the dots grouped themselves together in the most striking manner. Wherever tenements were more than

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three stories high and occupied more than fifty per cent. of light- and air-space, there the dots clustered thickly and, contrary to general impression, as we have already stated, many of the old three-story barrack-areas showed less of both disease and poverty than the modern five and six-story buildings. In one block in Cherry Street fourteen out of the twenty-two houses showed the black dot indicating tuberculosis, and in one of these, No. 144, known to fame as the "Ink-Pot," were no less than seventeen cases of the disease.

The task before the Commission is no light one for the forces which make for the maintenance of the present state of affairs are enormously strong. Chief among these, of course, are the necessities of the tenant and the greed of the speculative builder and landlord. One wonders that the working classes submit to such fearful herding together but, as two-thirds of the population of New York City are compelled to live in tenements of some class, the best that is offered them is a choice of evils. Indeed, the stern necessities of the situation in some cases drive them to actively assist in the overcrowding. The average rent-rate in New York is no less than 24 per cent. of the tenant's earnings, as compared with 12 per cent. in Berlin, and to meet this drain families not only crowd into a disastrously small room-space but take in boarders as well. Especially is this the custom in the Italian tenements, where two or more families will sometimes occupy a single room which is simply packed with bunks and cots. And when these crowded rooms open not upon the street but upon air-shafts, fourteen inches wide and twenty-five feet deep, with thirty-nine windows opening into it, the condition of the atmosphere can be better imagined than described. Yet in these dark dens, worse than the original cave-dwellings of the race, the rents range from ten to seventeen dollars per month for from three to four rooms, the price of an entire house in most suburbs. And such houses as these are actually being erected under the present law, which Commissioner Brady of the Building Department declares to be "all that it need be," and the Tenement Commission, consequently, a complete superfluity.

This dictum, however, will not greatly discourage the newly-appointed body which has practically decided that the facts in the case are already so well known through the work of the Charity Organization Society and of other investigators, including many of the members of the Commission itself, that they can proceed at once to the consideration of what can be done to remedy the situation by legal measures. The outlook before them, although stormy, is far from discouraging, for the experience of Glasgow, London, Birmingham, and Berlin, has already shown what immense improvements can already be hoped for from judicious regulation seconded by persistent individual effort. How this success has been attained we hope to discuss in a future issue.

ECHOES AND NEWS.

NEW YORK.

New Cure for Diphtheria.—We learn from Santiago de Cuba that leading members of the medical profession report radical cures of diphtheritic cases by the initial application of paraffin.

Emergency Hospitals in Brooklyn.—Charity Commissioner Simis proposes to take a large number of dwelling-houses, scattered in various parts of the borough, and use them as emergency hospitals. They will each accommodate from twenty to thirty patients.

The Harlem Hospital.—Commissioner Keller in a recent address declared that the most glaring need in the Department of Charities is a new hospital in Harlem. The present Harlem Hospital, he said, is a makeshift from top to bottom, a disgrace to the city, and a reproach to the intelligence of the people of New York. The Commissioner also announces his intention of converting the building occupied by the Cornell Medical School in the Bellevue Hospital grounds into a first-class, up-to-date maternity hospital. The Maternity Hospital on Twenty-sixth Street will be occupied as a dormitory for the Bellevue Hospital employees. In the autumn three buildings on Blackwell's Island will be appropriated to the use of segregating tuberculosis patients.

Contagious Diseases.—For the week ending May 12, 1900: Measles, 559 cases and 14 deaths; diphtheria, 288 cases and 44 deaths; laryngeal diphtheria (croup), 9 cases and 7 deaths; scarlet fever, 166 cases and 12 deaths; chicken-pox, 11 cases; tuberculosis, 241 cases and 197 deaths; typhoid fever, 21 cases and 13 deaths; cerebro-spinal meningitis, 1 death. Totals, 1295 cases and 288 deaths.

Medical Societies Merged.—At a special meeting of the New York Medical Association, held May 11th, in the New York Academy of Medicine, it was unanimously voted that the County Association should become merged into the New York State Medical Association under its new charter recently obtained at Albany. The action taken was a ratification of the proceedings of the State Association in making all county organizations subordinate associations.

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Walter Duryea Able to Write.—Walter Duryea, who sustained a fracture of a cervical vertebra in August last while diving and who was operated on a month later by Dr. Abbe in Roosevelt Hospital, where he has been a private patient ever since, is now able to write. On May 11th he amused himself and delighted his friends and attendants by showing that he had sufficient strength and control of his movements to write his name and several short sentences.

New York State Board of Health.—Dr. Daniel Lewis of this city was reelected President of the State Board of Health at the annual meeting of that body held at Albany, May 11th. Dr. S. Case Jones of Rochester and Dr. Frederick W. Smith of Syracuse were appointed a commission on tuberculosis, and Drs. Lewis, Jenkins and Smelzer were appointed a committee to investigate the best system of disposal plants.

St. John's Guild.—This charity, which cares for thousands of poor and sick children during the summer months, has received two valuable gifts. Mrs. Augustus D. Julliard, whose husband in 1899 presented the Guild with a new floating-hospital, the "Helen G. Julliard," has given to the Guild the sum of $50,000, the interest on which is to be used to defray the expenses of operating the boat. Another gift is that of Mrs. Frederic Elliott Lewis, who has arranged for the erection of a new cottage-hospital on the grounds at New Dorp. This gift is in memory of her son, Frederic Chandler Lewis. The cottage is to be detached from the other buildings of the group, and is for the care and treatment of infants who are very ill. During 1899 the Guild gave 82,824 days of treatment at a cost of $57,993.12. The Guild needs $60,000 for the work this year, as it has largely increased its field of labor.

The March Death-Rate.—There were 7522 deaths in New York City during March; this gives a death-rate of 24.3 per thousand population. The death-rate in Manhattan Borough that month was 24.4; The Bronx, 33.4; Brooklyn, 23.0; Queens, 21.4; and Richmond, 26.4. One-ninth of these deaths were caused by consumption. The State Board of Health has decided to include pulmonary tuberculosis in the list of infectious and contagious diseases, to be thus reported monthly by the health officers of the different municipalities of the State. The State Board expressly declares that in requiring cases of consumption to be reported it by no means desires to have consumptives isolated or to institute a system of inspection. The Board's intention is to secure, if possible, a census of the number of cases actually existing in the State. Such a census being necessary to determine as to the necessity for State care of consumptives and for making some estimate as to the seriousness of the question from a sanitary point of view.

Dedication of Medical Library Building.—The dedication of the new library building of the Medical Society of the County of Kings occurs on Saturday, May 19, 1900. The new building is an attractive and imposing structure, a cut of which appeared in the MEDICAL NEWS last year. The exercises include addresses by Dr. George M. Gould of Philadelphia, Dr. James R. Chadwick of Boston, and Dr. Abraham Jacobi of New York; also appropriate remarks in transferring and accepting the building by Dr. William Maddren, Chairman of the Building Committee, Dr. Frank E. West, Chairman of the Board of Trustees, and Dr. Lewis S. Pilcher, President of the Society.

PHILADELPHIA.

Warned Against the Plague.—The secretary of the State Board of Health has issued a circular warning the public against the bubonic plague and advising vigilant observance of sanitary laws as a preventive. Especial attention is called to the mining villages of the State, their filthy condition rendering them particularly liable to outbreaks.

Health Report.—Deaths for the week ending May 12th were 494, a decrease of 23 from those of the previous week and an increase of 90 over those of the corresponding week of last year. Contagious diseases: Scarlet fever, 70 cases, 6 deaths; diphtheria, 90 cases, 18 deaths; typhoid fever, 60 cases, 15 deaths. Influenza was responsible for 5 deaths, and 2 new cases of cerebrospinal fever were reported.

Associated Health Authorities and Sanitarians of Pennsylvania.—The seventh annual meeting of this Association will be held at Mechanicsburg May 23-25. Discussion on school hygiene will be opened by Miss Dora Keen of this city. Dr. A. C. Abbott, City Bacteriologist, will deliver an address.

Woman's Medical College.—The forty-eighth annual commencement of this College was held May 16th, a class of twenty-four being graduated. A portrait of Dr. Ann Preston, the first woman who held the position of dean of the College, was presented by the alumnæ. An address by the Chinese Minister was a feature of the day. A full report of this and of the Alumnæ meetings of May 17th and 18th will appear in a future issue of the MEDICAL NEWS.

Pathological Society.—At the stated meeting of May 10th Drs. Shumway and Posey reported a case of sarcoma of the choroid. The points of interest in the case were: The advanced age of the patient, seventy years; the unusual form of the growth, which was of the alveolar type and originated from the proliferation of the lining endothelium of the larger vessels of the choroid; the early appearance of glaucomatous symptoms; marked inflammatory changes in the iris and ciliary body; the probable metastasis to the liver and brain. This was indicated by the sudden death of the patient a short time after enucleation of the eyeball, although no autopsy was obtained. Dr. Simon Flexner exhibited a tumor which had caused death in a patient by blocking

the small intestine just above the ileocecal valve. The tumor was ulcerated and was supposed to be a cancer although no microscopical examination had been made. No macroscopic evidence of metastasis was present.

Jefferson Commencement.—The seventy-fifth annual commencement of Jefferson Medical College was held on Tuesday, May 15th. The President of the Board of Trustees, Hon. Wm. Potter, conferred the degree of M.D. upon the 106 members of the class of 1900. James D. Moffat, D.D., LL.D., President of Washington and Jefferson College, delivered the address. The speaker began with a history of Jefferson College in Canonsburg, under the charter of which the Jefferson Medical College was founded. He does not commend the tendency of young men to enter the profession earlier in life, but argues for maturer years and a more thorough preliminary education.

County Medical Society.—The regular meeting of May 9th was devoted to a discussion on malaria. Dr. W. S. Thayer, of Johns Hopkins University, read a paper upon "The Life History of the Malarial Parasite." The three methods of transmission of the parasite—by the air, by drinking water, and by the bites of insects—were considered, with the conclusion that evidence points strongly to the last. Some facts were given as to the distribution of the Anopheles, the species of mosquito which has been proved to transmit the disease. In the city of Baltimore, where malaria is not found, the Anopheles is not present; but in the suburbs where malaria is present the insect is easily obtained. In a town of North Carolina, which white people had practically left because of malaria, 50 specimens of the Anopheles were obtained in two hours while the Culex was not found. Upon going eight miles into the interior of the country from this town, the Culex was found but the Anopheles was not. This region was also free from malaria. The speaker concluded from these facts, which have been noted in various countries, that, whether or not all cases of malaria can be accounted for by bites of insects, there is no positive evidence in favor of any other method of transmission. Nearly all the cases of spring malaria are considered to be relapses. The most interesting work now to be followed is to determine the type of mosquito present in given localities, the breeding-place of the same, and the best methods of extermination. Very much aid to investigators can be given by country physicians reporting the time of beginning of epidemics, the relation of these to relapses, the relation of the presence of the disease to the different types of mosquitoes, etc. Dr. Alfred Stengel spoke on "The Diagnosis of Malaria." The quartan type is very rare in Philadelphia. He has examined the blood from cases which have been pronounced malarial neuralgia, malarial disease of the eye, malarial lethargy, etc., and has never found the malarial parasite in any of them. In regard to the statement that the diagnosis of malaria should never be made unless the parasite be found, he believes that the experienced clinician may sometimes do so. The fact that the organism may be present in the internal organs in large numbers and not in the peripheral circulation does not warrant the microscopist in being too absolute in his conclusions. Puncture of the spleen will probably serve to make the diagnosis certain when the parasite is absent from the peripheral circulation. This method has certain risks, however, and is never necessary in the local types of the disease.

County Medical Society.—The meeting of April 25th was devoted to a discussion of medical education and the recent rulings of the Medical Council of Pennsylvania. Dr. Henry Beates, Jr., of the State Board, gave the reasons for the Medical Council insisting upon four years devoted to the exclusive study of medicine as a requirement for candidates for the State license. Dr. W. W. Keen maintained that college graduates should be given credit for their work and admitted to advanced standing in medical schools. The Medical Council is composed of seven members, none of whom are teachers, only three are physicians, and three of the other four are not educators in any sense, the fourth being the Superintendent of Public Instruction. Hence, it is a mistake to have these men supervise the medical education of the commonwealth. In many colleges the graduates are better fitted for the second year of the medical school than are those who take the first year of the medical school without a college course. If four full years are required of college graduates one of three results will follow: (1) Young men will eschew a college course and begin medicine; (2) they will pursue from one to three years at college and then begin medicine; (3) graduates will go to medical schools of other States where they are recognized. Dr. H. C. Wood believes the first year of a medical course should be taken at a medical school instead of at a lay college. It is better to dwarf the college than the medical course. A high college education is not the best thing for a medical man in all instances. President Stahr of Franklin and Marshall College stated that if college graduates were obliged to enter the first year of a medical school instead of to advanced standing with men of their own caliber they would go to other States. If medical schools demand the degree of A.B. for entrance, then literary colleges will acquiesce. President Warfield of Lafayette stated that with the physicians in their faculty and the facilities for dissection which they possess, they can turn out a better product than can medical schools with their first-year work. President Birdsall of Swarthmore stated that their graduates would pass all the examinations of the first year in the medical schools. Dr. S. Weir Mitchell asked if he meant to include anatomy and was answered that it included everything. The medical schools could build their fences and

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the college boys would climb over them. Dr. Edmund Holmes, Demonstrator of Anatomy at the University of Pennsylvania, said that college graduates knew more anatomy than did the men who had taken the first year in the medical school. This is due to the fact that the men in small classes at the colleges possess opportunities which he and his small corps of assistants are not able to give at the medical school. The Society passed resolutions demanding that college graduates be given credit by medical schools for the studies of the course which they have already taken.

CHICAGO.

Why Operate and When in Appendicitis.—Dr. J. B. Murphy spoke upon this subject at the April 25th meeting of the Chicago Medical Society. In speaking from a mortality standpoint, he excluded three classes of cases and retained only one. He excluded appendicular colic. He believes there is such a thing, but does not regard it as a surgical lesion. A diagnosis of appendicular colic can be made. He excluded catarrhal appendicitis as it is generally understood, saying it does not materially, if ever, jeopardize life. He excluded partially recurrent appendicitis, not the acute infective variety of the disease, but the mild so-called recurrent form, which may be either a recurrent catarrhal appendicitis, or a recurrent appendicular colic. In the consideration of the subject he included largely the acute infective form of the disease. Surgeons operate to remove an organ which is acutely infected, and in a very large proportion of cases during the first twenty-four hours, this infection is confined to the wall of the appendix. Indeed, he ventures to say that in ninety-nine cases out of a hundred, in the first twenty-four hours, the disease is limited to the wall of the organ. He omits one per cent., because he has in over nine hundred cases seen four cases of primary perforation from fecal concretions, and he is willing to admit that a few more cases than that may have occurred which had advanced beyond the possibility of recognizing that condition at the time operation was undertaken. Let the pathologic process advance to the second twenty-four hours and the condition will vary from an increased quantity of pus or inflammatory débris in the appendix to a completely gangrenous or necrotic appendix, or to perforation of the organ, with a circumscribed or general peritonitis at the end of forty-eight hours. There are cases of appendicitis dying daily. Why are they dying? Not because they are not within the reach of competent surgical treatment. He has noticed that a large percentage of them die in large cities and among popular, very influential people. Why? First, because this important class of people are treated conservatively, and by conservatively he means cowardly, because the medical man is either incompetent of making a diagnosis, which is positive, on which he is willing to risk his reputation; or, secondly, cowardly because the surgeon is not ready to face the music and take the responsibility of the risk. Surgeons can operate during that time, that is, the first twenty-four hours, with a mortality of two per cent. at the maximum, as he has never seen a death from a case operated upon inside of this period. The mortality in patients that are operated upon on the second, third, fourth, or fifth days is very much more than two per cent. Does the danger of operation increase with time? Yes, very materially, because the pathologic conditions have changed in the abdomen. For what purpose do surgeons operate? To lessen invalidism; to lessen or prevent recurrent attacks.

When should surgeons operate? If the danger increases with time; if the mortality increases with time; if the convalescence increases with the length of time which elapses between the onset of the attack and the time of operation, there is no ground for postponing operation, if it is indicated, beyond the first twenty-four hours. Taking all of the cases, one with another, in fairly competent hands a mortality of two per cent. can be obtained by operative intervention, and the only time it is possible for a surgeon to have this low mortality is inside of the first forty-eight hours. Inside of the first twenty-four hours the chances are much better; the surgeon is much more certain of his ground. Shall the surgeon operate when the case has gone to the third or fourth day? That depends. If the case has advanced to the third or fourth day and there is a circumscribed appendical abscess, with low temperature, the indications are that the virulence of the intoxication is not great. Then the surgeon can with safety wait. Even then, however, the risk is greater in waiting than in operating at that particular time.

GENERAL.

American Therapeutic Society.—The following officers have been elected: President, Horatio C. Wood, of Philadelphia; 1st vice-president, Howard H. Barker, of Washington; 2d vice-president, R. W. Wilcox, of New York; 3d vice-president, E. H. Long, of Buffalo; secretary, Noble P. Barnes, of Washington; recorder, William M. Sprigg, of Washington; treasurer, John S. McLain, of Washington.

The Pure-Food Bill.—The House Committee has submitted a favorable report on the measure now before Congress designed to prevent the adulteration, misbranding, and imitation of beverages, foods, candies, drugs, and condiments, and to regulate interstate commerce in such commodities. The bill, as now worded, creates a chemical bureau in the Agricultural Department whose duty it shall be to inspect food and drug products. It is sincerely to be hoped that this measure may become a law.

The Huxley Memorial Statue.—On April 30th a statue of Huxley was unveiled by H. R. H. the Prince of Wales in the great hall of the Natural

History Museum, South Kensington. The director of the Museum explained that this statue was the expression of admiration not only of the English people, but of the whole civilized world for one who, as discoverer, writer and man, must be reckoned among the greatest figures in the records of our age. Subscriptions have poured in, amounting in all to over $16,000, from all parts of the world, including every state of Europe, India, the United States, and England's remotest colonies.

The Plague.—There continue to be reports of plague at Hong Kong. In India reports still confirm the increased virulence and steady advance of the epidemic. In Honolulu all quarantine restrictions were abolished on April 30th, the city being pronounced absolutely free and clean from all infection. The plague is reported as spreading along the Red Sea, several cases have appeared at Port Said, and the American Consul General at Cairo cabled to the Secretary of State, May 9th, that the plague had appeared in Alexandria.

The Increase of Smallpox.—According to the latest "Public Health Reports" of the United States Marine Hospital Service, there were 7648 cases and 402 deaths from smallpox in this country during the first three and a half months of the present year, and 5267 cases and 272 deaths during the corresponding period of 1899. This is an increase this year of 44 per cent. in the number of smallpox cases and 48 per cent. in the number of deaths from that disease.

Beriberi Among the Japanese.—Kakké or beriberi has until recently been the most prevalent malady in the Japanese fleet, at times absolutely paralyzing action, just as formerly European squadrons used to be afflicted with scurvy. In 1882, during the Corean expedition, and about the same date, in a fleet off the coast of South America, beriberi rendered helpless between 30 and 40 per cent. of the total strength.

The Mosquito and Filaria Nocturna.—Dr Manson has succeeded in demonstrating the filaria in the blood, stomach, and other sections of the mosquito. In one microscopic section, passing through the entire length of the proboscis of a filariated mosquito, a specimen of this parasite was seen stretching along the entire length of the proboscis. It was inferred that the filaria is communicated to man by the bite of the mosquito. "This important discovery," says the *British Medical Journal*, "not only revolutionizes our ideas as to the precise way in which the mosquito conveys the filaria to man, but by analogy lends support to the truth of Ross' inoculation theory of malaria."

Some Medical Problems in the Philippines.—In an article in the *Atlanta Medical Journal* with the above title Dr. Bourns states that the Filipinos and the Spaniards at Manila know practically nothing about hygiene. But the Filipino is willing and quick to learn and will adopt whatever is good and beneficial when convinced. Smallpox is always there. The native is a fatalist, and will not take any pains to avoid this disease, believing that if he is to die of it, it is so ordered. But while vaccination is resisted at first, when its utility is appreciated, the Filipinos will offer themselves voluntarily for vaccination. Leprosy is quite prevalent. There are about 2500 lepers in the islands.

Hygiene Exhibit for Paris.—An interesting exhibit for the Paris Exposition is that of public hygiene, which was shipped on May 5th. In the absence of a National department of health, Dr. Samuel W. Abbott, Secretary of the Massachusetts Board, special agent for the United States Commissioner, prepared the exhibit. All the States are represented, except a few in the West where there are only local health boards. The collection will be a part of the exhibit of social economy and public charities and hygiene. The following is a general enumeration of the articles comprised: Half-a-dozen large maps of the United States, illustrating subjects relating to the public health; a series of cards in wing frames, showing the vital statistics of the country as a whole, and of States and cities; maps and charts indicating the work of several State boards of health, of isolation hospitals for infectious diseases, of hospitals and homes for consumptives, of vaccine and antitoxin plants, and of crematories; six folios of circulars of State and local boards of health, and a large album full of photographs elucidating municipal healthwork; reports of the various health boards, of registers of marriages, births, and deaths, of dairy and food commissioners, and of sanitary organizations, and periodicals of the same class; a glass case containing appliances employed here to facilitate the diagnosis of infectious diseases, together with samples of antitoxines and vaccine lymph.

Yale Medical School.—The Yale Medical School is to be enlarged and to be removed from its present site in New Haven to Cedar Street, Congress Avenue and Rose Street in that city. The frontage of 400 feet is to be on Cedar Street, opposite the State Hospital. The land has cost from $50,000 to $75,000. The change will probably be made slowly, owing to the lack of funds. However, a new dispensary will in the near future stand on the proposed grounds. This change in the medical department is of a general scheme to develop, as far as possible, all branches of the University, illustrated some time ago by the university's purchase of the ground on which the new Law School building stands. The Yale Medical School is one of the oldest in the country.

Constipation.—

℞ Rhei .....3 ii
Magnesiæ .....3 ii
Sacchari lactis.....3 ii.

M. Sig. Give as much as is held on the point of a knife twice a day in water.—*v. Widerhofer.*

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OBITUARY.

LANDON CARTER GRAY, A.M., M.D.

DR. Landon Carter Gray, whose death was briefly noted in our last issue, afforded in the record of his life a notable example of how much, in results and in honors attained, can be accomplished within the brief compass of a few short years. Born in New York City April 3, 1850, he had barely passed his fiftieth birthday on May 8th, the date of his death. To those to whom the heritage of good birth is significant in its bearing upon the individual, it is interesting to note that Dr. Gray counted on both sides a long line of honorable and distinguished ancestors. His father, a lawyer of prominence and ability, was directly descended from "King" Carter of Shirly and Westover, two of the most famous Colonial estates of tidewater Virginia. His mother, a Miss Ireland, of the well-known New York family of that name, was a descendant of the Swedish Consul Jans, progenitor of the famous Anneke Jans heirs. Dr. Gray's boyhood days were passed at his father's home on Staten Island where he received his early education, afterward matriculating at Columbia College. He had scarcely completed his junior year, however, when he was compelled to abandon his studies on account of progressively failing vision, which had followed an attack of scarlet fever. This defect of vision was, by the way, of such pronounced character and degree as to render one eye practically useless through life, a statement which will doubtless surprise many who knew him intimately. The same illness appreciably affected his hearing, which defect also remained through life and was often a source of great personal annoyance to him. Upon leaving Columbia he went to Europe and, his eyesight improving, he entered the University of Heidelberg where he remained as a student for three years. Returning to New York he began the study of medicine, graduating from Bellevue Medical College in 1873. He was immediately offered, and accepted, the position of assisant to Dr. James R. Wood with whom he remained, however, only a year or two, finding no special aptitude nor inclination for surgery. He began practice in this city on Park avenue near 40th street. Within a year or two he moved to Brooklyn where he almost immediately began the special study of neurology. It was during these early years in Brooklyn that he passed through the fiery trial of financial adversity. Reared in an atmosphere of affluence and luxury he was the less prepared for the change which his father's total loss of fortune made necessary. In connection with this incident of his life it would be less than just to the memory of the man and to the dominant characteristic of his private life not to mention the fact that without legal obligation and with none other than that of the nicest honor, he voluntarily assumed and afterward paid, out of his own personal earnings, thirty thousand dollars in settlement of the indebtedness incidental to his father's failure. The spur of necessity proved an additional stimulus to an already active ambition with the result that in less than ten years he had not only reached the top-most round in the city of his labors, but had won for himself a name and reputation reaching international proportions. At the age of thirty-two he was filling with distinction the Chair of Neurology in the Long Island Hospital College of Medicine. A few years later he resigned to accept the professorship of Mental and Nervous Diseases at the New York Polyclinic, a school for post-graduate instruction of which he was one of the founders. He returned to New York in 1886 where he continued actively at work until within two or three months of his death, persisting in a determination to continue "in harness" in spite of a constant distress of mind and body incidental to the disease which caused his death, which disease (a chronic nephritis with cardiac complications) was existent and known to him for several years.

His energy and worth were not unrewarded. Honors fell full upon him. His titles were many, only a few of which need be mentioned. He was Visiting Neurologist to St. Mary's Hospital in Brooklyn, Consulting Neurologist to the Hospital for the Ruptured and Crippled, President of the American Neurological Association, of the New York Neurological Society, of the Neurological Section of the Academy of Medicine, of the Society of Medical Jurisprudence and of the New York County Medical Society; Honorary Member of the Medical Society of the District of Columbia, besides many others. For nine years he held the position of chairman of the Executive Committee of the Congress of American Physicians and Surgeons, a most distinguished honor.

Dr. Gray was the author of many valuable contributions to neurology and psychiatry. He discovered and demonstrated the value of surface variations in the temperature of the scalp as a means of diagnosis in certain intracranial affections. He discovered and described a symtomatic entity among the convulsive disorders akin to chorea to which he gave the name palmus. Especially noteworthy and valuable were his original observations and published teachings upon syphilis of the nervous system, melancholia and the muscular atrophies. The crowning accomplishment, however, of his literary career is a treatise on mental and nervous diseases which has passed through several editions and ranks as a most valuable and authoritative text-book on the subject.

In no sphere of professional activity, however, did Dr. Gray attain to more deserved distinction than in that of the medico-legal expert. His opinions and advice were in constant demand, and he commanded a respect and confidence which cannot be better illustrated than by a tribute by one of New York's ablest jurists, a judge for many years of one of our highest courts, pub-

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lished in the *New York Sun* of the 14th inst.: "Dr. Landon Carter Gray had also achieved notable distinction in the field of legal medicine. In giving expert evidence he was the very model of what a medical witness ought to be, and his intellectual honesty would not suffer him to be biased in favor of the litigant or lawyer who sought his opinion. This was so well known that distinguished counsel often consulted him in regard to medical matters which never found their way into court, simply in order to satisfy themselves as to the true character and extent of the injuries or maladies of which their clients complained."

Passing from the public to the personal man the task becomes more difficult. Dr. Gray was a many-sided man, and like all great men he had his angles. Of handsome physique, impressive presence and somewhat imperious manner, an acquaintance short of intimacy left often an impression less than just. To those who knew him no underestimate was possible. Of unswerving truthfuless, keen to exquisite nicety in his appreciation of the right, kindly and generous in every instinct, he was a type of the loyal friend and the generous foe. To him as to others of like type the cardinal crime was ingratitude and to repay an obligation with interest was with him instinctive. He was an intellectual pugilist and was never oblivious to the gauntlet thrown down before him. The atmosphere of the intellectual arena was as sweet incense and to this measuring of wits he went as to a feast. He never acknowledged defeat and yet he bore no malice from disaster accomplished by fair means. He was bold to audacity. To the writer he once said: "I always take the odd chance. In all my life I have never walked nor crawled, I have plunged." His sense of humor was always keen, his stories always apt. As an after-dinner speaker he was often in demand. As a teacher he was peculiarly coherent and practical. He possessed in extraordinary degree the quality of adaptability, which faculty made him preeminent as an instructor. He was a most voracious reader and, therefore, a "full man." His three years' residence abroad, coupled perhaps with natural aptitude, made him an accomplished linguist. One special quality he possessed in most phenomenal degree—a quality which has made the military chiefs of history—the faculty for organization. Of a child-like type of credulity apparently, he was accurate in his estimate of men and kept constantly attached to him by obligations of interest and gratitude men who not only served his purposes but justified his estimates in personal successes which cast a reflected glory, which was his. In this he suggested the elder Charcot. Of those who, in his special field, stand highest in New York to-day, not one but owes some tribute to his memory, the younger men for his determined efforts to check them in their fascinating but unfounded theories, and to the more mature for his loyal support in their well-considered theories.

CORRESPONDENCE.

OUR LONDON LETTER.

[From Our Special Correspondent.]

LONDON, May 10, 1900.

THE MIDWIVES' BILL—DINNER TO SIR WILLIAM MAC CORMAC AND MR. FREDERICK TREVES ON THEIR RETURN FROM SOUTH AFRICA—EFFICIENCY OF THE ARMY MEDICAL SERVICE—LARGE BRITISH LOSSES AND COMPARATIVELY SMALL BOER LOSSES IN ENGAGEMENTS—THE "PLAGUE OF WOMEN" IN SOUTH AFRICA—THE "HOME OF GENIUS"—DESCENT FROM ANCIENT CIVILIZED RACES IN THE PRODUCTION OF GENIUS—HEREDITY.

THE Midwives' Bill still remains the burning question of medical politics, so far as any question can be termed burning in a phlegmatic race and in a profession incapable of uniting and taking an active part in any public matter. This bill, which has passed its second reading in the House of Commons by a large majority, has been brought forward in order to regulate the practice of midwives. According to its provisions no woman will be allowed to use the title of midwife, or to hold herself out as practising as such, who has not been legally registered. In future to obtain registration a woman must undergo a prescribed course of training and pass an examination. She will be empowered to attend only normal labor; if complications arise a medical practitioner must be summoned. The majority of the rank and file of the profession appears to be hostile to the bill. They say it creates a new order of medical practitioner who necessarily will be imperfectly trained and that therefore their recognition will be fraught with disasters to puerperal woman. They insist that these midwives cannot in their limited course of training learn to diagnosis normal from abnormal labor. In a poll of the profession taken by the *Lancet* only 1311 out of 6299 practitioners expressed themselves in favor of the Bill. However, it must be remembered that of the whole profession in England and Wales not a third took the trouble to vote, so that the opinion of the silent majority is still in doubt. On the other hand, the opinion of the higher classes of the profession, so far as it has been expressed, is strongly in favor of such legislation. It has been recommended by the Obstetrical Society, the General Medical Council, and the Council of the British Medical Association. The leading medical journals maintain a very guarded attitude, which may be described as one of veiled hostility. The only one which has made an outspoken declaration in favor of the Bill is the *Practitioner*. It has the courage of its convictions and boldly declares that the opposition is conducted in a spirit of sordid selfishness and that in all the noise made by the leaders, but one argument can be detected, the *argumentum ad crumenem*. It must be confessed that this is largely true. The interests of the public have not even been considered by these gentlemen except

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to furnish them with a fallacious argument. The question is not one of well-trained accoucheurs *versus* ill-trained midwives but of untrained *versus* trained midwives. From 50 to 75 per cent. of labors in this country are attended by midwives—in most cases because the fee of a medical man cannot be afforded. Puerperal fever is often spread by these ignorant and untrained midwives. With official training and supervision this could easily be prevented. As to alleged danger from the incapacity of midwives to recognize serious complications, the answer is: Trained midwives are much more competent to do so than untrained ones.

Sir William MacCormac and Mr. Frederick Treves have been entertained at a banquet by their fellow members of the Reform Club on their return from the South African War. Lord Roseberry presided and the Lord Chief Justice and many well-known politicians attended. The chairman proposed the health of the guests in a characteristic speech. He referred to the services of Sir William MacCormac in the Franco-German War which first brought him into prominence and to the sacrifice of these two distinguished surgeons who, without a second thought, at the call of the government, left their great practices to superintend the surgical arrangements of the army. In a war in which there was so much diversity of opinion, absolute and enthusiastic unanimity existed on one point and on one point only—that the medical service was perfect. In his reply Sir William MacCormac said that at the battle of Colenso in consequence of the adverse conditions under which the British forces fought, their losses amounted to 1140, while those of the Boers were 5 killed and 25 wounded. He knew this on good authority. The latter occupied an almost impregnable position which was shelled for two days. For every 1000 shells the Boer losses were only 12 killed and 40 wounded. Such was the result of modern improved guns! The injuries from rifle-bullets were mild and less destructive than he had ever seen before. Injuries from artillery were comparatively few. Mr. Treves said that there never had been a campaign in which the horrors of war were so mitigated by surgical aid. There were two plagues in South Africa—flies and women. The latter were an absolute terror. Having exhausted every form of excitement they came out in the guise of amateur nurses and were to be seen at Cape Town and other places gaily dressed and giving picnics. Considering the war in which the country was engaged this was a blot on the campaign.

In the current number of his *Archives of Surgery* Mr. Jonathan Hutchinson puts forward a very ingenious and fascinating hypothesis on the subject of genius. It is not, perhaps, generally known that in addition to his encyclopedic knowledge of the whole field of medicine, he possesses a minute acquaintance with biology in general and with the allied or subsidiary sciences of geology, anthropology, and history. The hypothesis to which I have referred is a characteristic product of his subtle intellect; it is at once a daring and original hypothesis and a carefully made deduction. One of his patients has a head remarkably like that of Shakespeare. He at once asked him whether he was of Warwickshire family. The patient was, his ancestors having lived for many generations in Warwick, and he was of strongly pronounced literary tastes and abilities. Mr. Hutchinson had previously written a paper on the remarkable production of genius in the vicinity of Shakespeare's birthplace. Within a radius of fifteen miles of Coventry were born Shakespeare, George Fox, Butler, the author of "Hudibras," George Eliot, and Walter Savage Landor. Mr. Hutchinson suggests that possibly in this district there is some surviving Roman strain, for, here, in the very center of England the Romanized Britons were less disturbed than elsewhere. Here, too, was a confluence of Roman roads. Probably what is called genius is seldom or never produced in races only recently civilized, but occurs in those who in some degree trace their descent to the older stocks. The features of many European men of genius suggest an admixture of Semitic blood, and during the 360 years of the Roman occupation many of that race must have left descendants.

Prof. Arthur Thomson's lecture on "Heredity" at the Royal Institution of Great Britain, was an able and lucid exposition of an exceedingly difficult subject. Three kinds of inheritance were distinguished: (1) *Blended,* in which the characters of the two parents in regard to a particular structure, *e. g.,* the color of the hair, is intimately combined in the offspring. This form is well seen in hybrids and is probably the most frequent mode of inheritance. (2) *Exclusive,* in which the character of one parent is suppressed in regard to a structure, *e. g.,* eye-color. (3) *Particulate,* in which part of a given character is wholly paternal and part wholly maternal. Suppose the parents of a foal to be light and dark. If the foal is piebald the inheritance is particulate. Inheritance is not dual but multiple. A man, says Mr. Pearson, "is the product of all his past ancestry, and unless very careful selection has taken place the mean of that ancestry is probably not far from that of the general population. In the tenth generation he has theoretically 1024 tenth great-grandparents. It is the heavy weight of this mediocre ancestry which causes the son of an exceptional father to regress toward the general population mean." The transmissibility of acquired characters was considered not to have been established, but if the effects of "nurture" could not be entailed on the offspring, it was all the more important to secure for them good "nurture."

Death Penalty in Massachusetts.—By the narrow margin of two votes the House to-day decided against abolishing the death penalty in Massachusetts, the roll call recording 86 against and 84 in favor.

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TRANSACTIONS OF FOREIGN SOCIETIES.

British.

CYSTS OF THE BREAST—DIAGNOSIS AND TREATMENT OF CHRONIC NASAL DISCHARGES—INCARCERATION OF A GRAVID UTERUS NECESSITATING ABDOMINAL SECTION AND CYSTOTOMY—CASE SIMULATING PERFORATED GASTRIC ULCER.

AT a meeting of the Medical Society of London, April 23d, T. BRYANT spoke of cysts of the breast, to which he has given especial attention during the past four years. From personal observation he has been able to collect 242 consecutive cases of breast-disease. Excluding 12 of these in which the diagnosis was not confirmed by operation, there remain 163 cases of malignant trouble and 67 of cystic disease. Bryant draws the following conclusions: That simple cysts of the breast are far more common than they are generally thought to be; that they are chiefly found in women at the same period of life as that in which cancer is met with; that they are mostly amenable to local treatment without the sacrifice of the breast-gland in which they are situated; and that there is no reason to believe that women who have these cysts are more prone to cancer than those who have them not.

At the Harveian Society of London, April 5th, EDMUND ROUGHTON introduced a discussion on the diagnosis and treatment of chronic nasal discharges. He limited his remarks to the treatment of the accessory nasal sinuses. In antral empyema the essentials of treatment are: (*a*) The removal of the cause; (*b*) the evacuation and drainage of pus; (*c*) antiseptic irrigation; and (*d*) the removal of morbid material when present. Thus it would be futile to irrigate the antrum through the nose while it was constantly reinfected by carious teeth. Drainage alone will not suffice for a cure if the walls are polypoid, but it is wrong to scrape out an antrum which is simply a pus-receiver from a frontal sinus. In most cases treatment should be begun by antral drainage with a fair-sized tube. When this does not succeed the radical operation can be resorted to, an opening being made through the canine fossa. The treatment of frontal empyema is divided into intranasal and extranasal. The former comprises removal of the anterior part of the middle turbinate and irrigation of the cavity through the infundibulum. If these methods fail extranasal treatment may be resorted to, for instance, if there is persistent pain or evidence of imperfect drainage. Ethmoidal suppuration should be treated by the removal of the middle turbinate and scraping of the affected cells, care being taken not to transgress the anatomical limits of the lateral mass of the ethmoid. Any direct operative attack on the sphenoid should be undertaken only after the most careful consideration.

HERBERT TILLEY said that the pain of chronic suppuration is due to accumulation of pus under pressure and not to inflammation of the nerves in the walls of the sinuses. In support of this opinion cases were cited in which the pain had instantly disappeared as soon as free drainage had been secured by the removal of a tooth, irrigation of the antrum from the nose, or the removal of the anterior half of the mid-turbinal, and of obstructing polypi and granulations from the region of the mid-meatus. In testing for pus in the antrum by transillumination, the patient's comparison of the subjective sensation of light in the eyes is sometimes of more value than the surgeon's comparison of the facial illumination. Tilley believes in antral drainage as a preliminary measure in all cases of antral suppuration. It is a simple method of treatment and often cures the patient. It can usually be carried out without the removal of a sound tooth.

At the Obstetrical Society of London, April 4th, J. M. KERR reported three cases of incarceration of a gravid uterus. In one of them the operator found it necessary to open the abdomen and then the bladder, and was unable to replace the uterus until he had removed a large quantity of blood-clot from the bladder. The bladder and abdomen were then closed. The patient recovered and continued to full term.

A. H. N. LEWERS criticised this method of treatment, saying that he had seen many cases in which the retention of urine was extreme, over five pints having been drawn off, and in two of the cases there was hematuria, but the performance of abdominal section was not suggested. His treatment was to empty the bladder and to replace the uterus, preferably under anesthesia, or to encourage the uterus to rise spontaneously by rest in bed and regular evacuation of the bladder. Such spontaneous reposition is not unusual. In the case mentioned by Kerr the urethra might have been dilated and the clots removed by forceps and irrigation, and if the bladder had only been kept empty for a few days with the patient constantly in bed, he suggested that the uterus would have spontaneously assumed a correct position.

At the Royal Academy of Medicine in Ireland, March 9th, W. J. THOMPSON read notes on a case simulating a perforated gastric ulcer. The patient was a female, aged twenty-three years, who had a tubercular family history but who had never been seriously ill except for a period of six weeks. She suffered from mild digestive disturbances, flatulence and nausea. Later there was pain, localized at first in the pit of the stomach and afterward extending to the back. About an hour after a simple supper of bread and milk, the pain suddenly became agonizing and was followed by vomiting; the vomited material being, according to report, of dark reddish color. The pain increased during the night and became more diffuse. The epigastric and left hypochondriac regions were tense and tender. Liver dulness was present. Fourteen hours after the acute attack the abnormal symptoms were aggravated,

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the pulse 140, respiration 34, temperature 102° F. A median incision was made and the anterior wall of the stomach examined. It appeared normal. The operator was about to examine its posterior wall when he discovered a coil of jejunum containing two gangrenous patches involving one-third of the bowel. The loop was resected and the ends joined by a Murphy button. The patient recovered. The specimen was lost and the cause of the gangrene was not determined, but the case is of interest as showing how difficult is an infallible diagnosis of acute abdominal lesions. The previous history, the sudden nature of the attack, and the localization of pain all pointed to perforation of a gastric ulcer.

SOCIETY PROCEEDINGS

AMERICAN SURGICAL ASSOCIATION.

Twenty-first Annual Meeting Held at Washington, D. C., May 1, 2, and 3, 1900.

THIRD DAY—MAY 3D.

(Continued from Page 714.)

Surgery of the Stomach.—The discussion was opened by Dr. W. W. Keen of Philadelphia, who said that the subject naturally divided itself in benign troubles and malignant troubles, and of these two classes the latter is the more difficult and more important. It is practically in the first three months that the surgeon must operate on carcinoma of the stomach if he expects to be successful. The advent of gastric specialists is a great help to the surgeon, but in every case in which there is a suspicion of cancer, if medical measures fail to relieve, an exploratory operation should be made without delay.

Dr. M. H. Richardson of Boston said that in stomach diseases, all methods of diagnosis should be exhausted before exploratory incision is performed. Explorations of the abdomen are dangerous. When other means of diagnosis have been exhausted and a doubt remains, then an exploration should be made, and, just as in acute cases after traumatism and so forth, the exploration should be made without delay. The future of surgery of malignant disease of the stomach is more hopeful than is generally believed.

Dr. Thomas A. McGraw of Detroit called the attention of the members to a method of gastro-enterostomy by elastic ligature which was first performed by him upon a human being in 1891. The junction of the stomach and intestine was perfect. The patient died in fifteen days of inanition, and at autopsy the surgeon found that he had anastomosed the very lowest part of the ileum to the stomach. One advantage of this operation is that it is the safest form of gastro-enterostomy. The rubber ligature can be stretched and threaded through a darning-needle smaller than the ligature. Hence the opening made in the stomach and intestine will be smaller than the rubber thread which passes through them and no leakage can occur. The speaker said that he has performed this operation many times upon dogs with entire success. In the dog it takes four days for the portion of the stomach which is included in the ligature to slough away. In man the length of time required is probably three days.

Dr. Allen of Detroit mentioned a case of perforated ulcer of the stomach which was situated so far posteriorly that it was impossible to reach it. The patient was quickly put into Trendelenburg's posture, and the fluid and gas were removed from the stomach by a stomach-tube. The area of the perforation was stuffed with gauze, and the patient recovered. Culture media inoculated with the peritoneal fluid remained sterile.

Dr. Tiffany of Baltimore said that he had seen but one case of carcinoma of the stomach, and that at autopsy, in which the condition was such that an operation could be done with reasonable expectation of a radical cure. The speaker advocated an exploratory operation in order to make a diagnosis. He said that surgeons came to their present knowledge of ovarian troubles only by operating many times and often needlessly, as they have since learned; that the same is true of appendical difficulties; and that knowledge of gastric lesions and the best means to meet them must be acquired by the performance of many operations, wise and otherwise.

Dr. R. F. Weir of New York said that the surgeon is called upon to relieve one or more of the major symptoms of pain, hemorrhage, delay of food in the stomach or dilatation. When the abdomen is opened he must then decide as to what operation will best relieve the symptoms. Speaking of the technic of gastro-enterostomy he said he preferred the posterior method combined with entero-anastomosis of the ascending and descending legs of the intestinal loop. Since adopting this procedure he has never seen the vicious vomiting which formerly caused the death of some of his patients after gastro-enterostomy. He prefers a Murphy button not only because of the facility with which it can be employed, but also because its punched-out hole gives security against subsequent contraction which is not offered by even a long sutured slit.

Dr. Armstrong of Montreal said that he had operated on a number of cases of hemorrhage of the stomach. These cases are of two classes, one in which superficial vessels are opened and which are amenable to medical measures, and those in which a deep and large vessel is opened, and in which death quickly follows either the first large hemorrhage or a succeeding one. The stomach should be opened in the anterior wall so that its inner surface may be most satisfactorily explored. Then, if necessary, a pyloroplasty or other suitable operation may be done.

The Methods of Closing Abdominal Incision.—Dr. M. H. Richardson said that for various reasons he favored a through-and-through suture. It leaves no dead spaces to be filled with fluid, and

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so give rise to sepsis. Hence, herniotomy sutures being in layers are especially liable to suppuration. Silkworm gut is preferable to silver wire since it has all the advantages of wire and can be more rapidly put into place. The buried silk suture is best for the ligation of arteries as well as for layer sutures. Hematomata of different parts of the body show a different predisposition to infection. Those of the breast and amputation stumps do not usually become infected, while in a hernia the blood-clot almost always does so. This difference is probably due not to the suture material, but to the dirty operative field. Every operative field has some micro-cocci in spite of all attempts to cleanse it, and this is particularly true of the region of a hernia. There are very few ventral hernias after aseptic operations. The through-and-through suture obliterates the dead spaces, especially between the peritoneum and the muscular layer. If a buried suture is wished the muscular layer should be sutured. Then with a through-and-through suture the whole wall is firmly closed.

Dr. Deaver of Philadelphia endorsed Dr. Richardson's views. He is sceptical in regard to the sterilization of catgut. Whenever it is possible to do so, incision should be made through a muscular portion of the abdominal wall.

Dr. R. F. Weir of New York said that the disadvantages spoken of as due to the layer suture might have other explanations; for example, tying a suture too tightly may cause death of tissue and so give rise to hernia. The men who perform abdominal operations very likely do not see patients who afterward, disappointed with the result of their operation, apply to another surgeon for relief of a ventral hernia.

Dr. G. R. Fowler of Brooklyn advocated a figure-of-eight suture so that the threads cross between the peritoneum and the muscular or fascial layer. He considers that a purse-string suture of the peritoneum is less likely to be followed by adhesions and hernia than is a linear continuous suture.

Dr. Coley of New York said that clinical evidence has demonstrated the aseptic qualities of properly-prepared catgut. He referred to the last 150 cases of hernia in which operation has been performed at the Hospital for Ruptured and Crippled in New York City only absorbable sutures being employed. In but a single instance was there suppuration of the wound, and cultures of the skin of this patient made at the time of operation, and cultures afterward made from the discharge of the wound both contained the same streptococcus while tests of the catgut showed it to be sterile.

Dr. Nancrede of Ann Arbor said that catgut can be made as sterile as anything else by boiling it in kumol at 160° to 170° C., as has been shown by repeated laboratory tests; while it has also been shown that the ends of a sterile catgut ligature contain the same germs as the bare hand of the man who ties the ligature.

Dr. Ransohoff of Cincinnati said that the continuous buried suture can be used rapidly and easily in layers. His plan is to put a buried suture in the peritoneum, and in the muscular layer a continuous suture, the ends of the latter being brought out and through the skin. He then closes the skin by an intracuticular suture. It is better for a patient to have a single linear scar than one with numerous crossbars.

Strangulated Hernia Through Rupture of the Diaphragm.—Dr. E. W. Walker of Cincinnati reported an instance of this rare condition, the result of an accident, which was successfully relieved by operation. The incision in the median line revealed, after some search, a knuckle of prolapsed bowel tightly pressed into a rent in the diaphragm. It was withdrawn and an attempt was made to suture the rent in the diaphragm, but owing to the labored respiration of the patient the attempt was abandoned and the abdomen was closed. Recovery was uneventful.

Hernia of the Bladder Through the Pelvic Floor.—Dr. Francis B. Harrington of Boston reported a case of fibroma with attachments extending from the left labium magus to the left buttock. The tumor arose from the subperitoneal tissues in front and to the left of the bladder. It had drawn the bladder out of the pelvic cavity through the fibers of the levator ani muscle. Nearly the entire bladder was enveloped by the tumor which hung between the patient's legs. The tumor was 18½ inches in circumference and 8½ inches long. When the bladder was emptied the tumor decreased 2½ inches in its circumference. The bladder held 22 ounces of urine without discomfort. The urine did not flow until a soft rubber catheter had been inserted 8 inches. The tumor was removed and the hernia of the bladder reduced by a combined abdominal and external operation. The broad ligaments were separated from the uterus and the fundus of the uterus was drawn forward and to the left and sutured in that position as a plug to prevent the recurrence of the hernia. The operation was entirely successful and when seen six months later there had been no recurrence of the hernia of the bladder. Hernia of the bladder through the pelvic outlet is a very rare condition. No case, according to Brunner having been recorded in medical literature since 1860.

Aneurism of the Renal Artery.—Dr. W. W. Keen of Philadelphia operated with success upon a tumor supposed by him to be a sarcoma of the right kidney. The tumor was so vascular that its pedicle had to be ligated in seven places to control the hemorrhage, but it was not until the tumor had been removed and cut into that it was seen to be an aneurism. Aneurism of the renal artery is one of the rarest forms of aneurism, only twelve other cases having been reported. The cause in six cases, including that reported by Dr. Keen, seems to have been an injury. In most cases no disease of the general arterial system seems to have been present. Pain is not a prominent symptom. The tumor is usually smooth and elastic and, if it follows an injury,

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it grows less rapidly than does a hematoma, but more rapidly than a sarcoma. The sac is very large and the artery relatively small and, hence, pulsation has not been noted in more than one instance. Without pulsation, naturally, a thrill would not be present, although in only one instance is it mentioned that the surgeon auscultated the tumor. One of the most important symptoms is hematuria. If the aneurism is situated outside of the kidney this will not take place until the aneurism attains considerable size and bursts into the pelvis of the kidney. In one case it developed within the kidney and there was hemorrhage from the first. Only three patients have been operated upon, and they all recovered. There was nothing peculiar about any of the operations, other than the danger of hemorrhage from the pedicle.

Acute Tuberculosis of the Mesenteric Glands.—Dr. M. H. Richardson of Boston said that he had come to look upon this disease as hopeless, unless the glands could be removed by operation just as is done in tuberculosis of the neck. The miliary form of peritoneal tuberculosis is not accompanied by enlargement of the mesenteric glands. When they are distinctly enlarged, ascites is generally absent. The mesenteric glands may be found enlarged, in cases of chronic appendicitis or under other conditions. They may be caseated or even calcified. In acute appendicitis the nearest glands may be distinctly affected. It is by no means unlikely that the original trouble is an acute tuberculous affection of the appendix, which may not be recognized as such until a persistent sinus or the progress of the disease in the glands reveals the true nature of the lesion. In the case reported diagnosis of acute appendicitis was made, but the appendix was found to be normal. Several enlarged and inflamed glands were removed from the mesentery, most of them were juicy, two contained cheesy degenerated areas. The operation was performed five years ago and the boy is still in excellent health.

Congenital Cystic Tumor of the Pelvis.—Dr. De Forest Willard of Philadelphia reported the occurrence of the above-mentioned trouble in a neurotic man. On account of the pain which extended down his leg, his physicians had made a diagnosis of neuritis; but the pain did not follow the course of any nerve, and was not continuous. Afterward a tumor was found in the groin and was operated on. It was of a cystic character and was so intimately connected with the iliac and femoral arteries that it was impossible to remove it *in toto*. Numerous bean-shaped yellowish bodies were taken from the cyst the nature of which was not clearly ascertained. The patient died later of nephritis.

Carcinoma.—Dr. L. Freeman of Denver mentioned two unusual phenomena in connection with carcinoma. A woman aged thirty-five years, from whom a carcinomatous breast had been removed, suffered spontaneous fracture of the femur while turning in bed. Apparatus was applied and, contrary to all expectation, the bone firmly united. After the death of the patient sections of the femur showed that the cancer had invaded the bone through its Haversian canals. In another patient an apparently typical cancer of the lip disappeared spontaneously. Later the submaxillary glands became enlarged and were removed. Microscopic examination showed them to be carcinomatous.

AMERICAN GYNECOLOGICAL SOCIETY.

Twenty-fifth Annual Meeting, Held at Washington, D. C., May 1, 2 and 3, 1900.

(Continued from Page 728.)

FIRST DAY—MAY 1ST (Cont.).

Conservative Surgery.—Dr. W. L. Burrage of Boston read a paper, entitled "The Remote Results of Conservative Operations on the Ovaries and Tubes, with Analyses of Eighty-five Cases." After referring to the results obtained by Drs. Polk and Dudley in this line of work, he gave a most thorough analysis of his cases and reached the following conclusions: (1) It is advisable to do conservative operations in all cases where the tubes are not hopelessly diseased in all parts of their stricture, except on patients who are near the menopause, on patients who have pronounced gonorrhea of long standing, and on the rare cases of malignant disease. (2) When a patient is near the menopause (over 35 years fo age) and has ovarian or tubal disease of any considerable degree of severity it is generally wiser to perform complete removal with or without hysterectomy according as the uterus is diseased or not. (3) In cases of well-marked gonorrhea of long standing, especially if the patient is constantly exposed to reinfection, if both tubes are seriously diseased and closed total removal, with or without hysterectomy, is the operation of choice. (4) In certain cases of this class where the patient thoroughly understands the likelihood that another operation may be necessary at some future date and wishes to take the chances in the hope of preserving the functions of menstruation, conservative operation is permissible. (5) If one tube is patent and healthy in appearance and there is enough healthy ovarian tissue to preserve, a conservative operation ought to be performed even in the presence of gonorrhea. (6) With present methods of performing resection of the tubes, if both tubes are found closed at the time of operation subsequent pregnancy is not to be expected. (7) In severe grades of inflammation of the appendages irrespective of causation if the ostium abdominate of one tube is patent the prospect of subsequent pregnancy after the preservation of a portion of the ovary is about one in four and a quarter or 23½ per cent. (8) In the lesser grades of inflammation under similar conditions of tube and ovary the prospect of subsequent pregnancy is about one in two and a quarter or 44 per cent. (9) In women who have borne children, in both classes, subsequent preg-

nancy may be expected in 35 per cent., whereas in the previously sterile it may be looked for in only 5 per cent. (10) If it is necessary to remove both ovaries, it is of no advantage to preserve any portion of tubal tissue, but, except under the conditions just enumerated, some ovarian tissue should be preserved in every case.

Dr. Thomas Addis Emmet of New York opened the discussion by saying that one should always be conservative for nature can do wonders at repair. It is of benefit to leave even the smallest possible bit of healthy ovarian tissue. This was well exampled by two cases in which he had pursued this course, and subsequently both patients became pregnant.

Dr. Dudley of New York said that he had now performed the conservative operation in 138 cases without a death. In one of these cases, which was a gonorrheal infection, there was a double pyosalpinx. He removed one ovary and split the other one and removed a V-shaped piece. He separated this from the tube and buried it in the fundus of the uterus. The ovary grafted and since then the patient menstruated normally. He had had 5 cases in which he has transplanted the ovary with marked success. Two of them are now menstruating; 1 has not yet had time to menstruate; 1 was never seen again, and 1 is not menstruating. The function of menstruation should always be conserved if possible and the patient thus spared the nervous shock.

Dr. Harris of Paterson, N. J., says that it is very rare to have to remove all or both ovaries. The only cases in which he does so are those which have large abscesses in the ovary. There are many advantages in leaving the ovaries from the standpoint of health as well as that of sentiment. It is believed that the future will show many cases of pregnancy as the result of such conservative treatment.

Dr. Vineberg of New York said that the class of cases which give the poorest results are those in which the lesion is not very severe; no matter what treatment is employed, the patients continue to suffer after operation.

Dr. Mann of Buffalo reported a case in which he had removed one tube and one ovary, the other tube and ovary being also infected. He did not remove them but merely incised them. Since then the woman has given birth to three girls and one boy, and is a splendid example of the good results to be obtained by conservatism.

Dr. Goffe of New York said he always believed in conservatism and was now approaching his one hundredth operation in which he had practised it. He prefers the vaginal route to the abdominal, and uses the actual cautery to burn out cysts in the ovary. In one case he removed two-thirds of the right ovary and applied the cautery six times to the left ovary. The woman is now pregnant.

Dr. Hunter Robb of Cleveland reported a case which had not been very successful. He performed a conservative operation at first, but in six months the patient had many distressing symptoms, so he made an abdominal incision and found that both ovaries were densely adherent and that the surface of the ovary had become converted into a blood-cyst. He removed both ovaries.

Dr. Burrage closed the discussion by saying that he had used the cautery on many cystic ovaries, but that he did not believe it had any advantage over simple puncture. He thought that every case should have a careful bacteriological examination made before operation, as the knowledge thus gained would be a guide as to the method of procedure, or, in other words, as to whether a radical operation was imperatively demanded, as would be the case in tubercle infection.

Internal Secretion of the Ovary.—This was the title of the paper read by Dr. Arthur W. Johnstone of Cincinnati. He said that there is absolutely no proof that the ovary has any other function than the manufacture of eggs. During all the life of the individual the Graafian follicles ripen. The ovary is in no sense a gland. Its epithelium is arranged for the purpose of being cast off and lost, and it is not placed so that its secretions, if it have any, could be absorbed either by ducts or blood-vessels. Delayed menstruation in a child-bearing woman produces identically the same symptoms as those of the menopause, which would certainly make the internal secretion of the ovary seem a myth. He does not believe the ovary dominates the health of woman, but rather that there is a center in the spinal cord which is the controlling factor. The good results following the administration of ovarian extract are generally seen in hysterical women who have also been known to improve on a mixture of salt and soda. Nature has its periods of rest and work, as seen in the moulting of birds, which corresponds to the menstruation of woman. It is simply a time of increased oxidation. Some women stand this period well, while others, particularly those with the gouty diathesis, do not. This is a very large source of trouble at the menopause and during menstrual life. In proof that the ovary's influence is not paramount, the author cited a case of a girl who had both ovaries removed on account of cysts at the age of 8 years. When seen twelve years later she had developed into a beautiful woman, her figure well rounded out, the possessor of a good voice, and an examination of her external genitals showed them to be perfectly normal.

Suturing the Round Ligaments.—Dr. H. N. Vineberg of New York read a paper on "The Technic, Indications and Ultimate Results of Suturing the Round Ligaments for Retroversion and Retroflexion of the Uterus." He describes his technic as follows: The patient is prepared as she would be for a vaginal hysterectomy. The nymphæ are sutured to the skin of the thighs so as to keep them out of the way. The cervix is then seized with two vulsella and forcibly drawn outside the vaginal orifice and downward, and

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the anterior vaginal wall is caught with another vulsellum near the urethral meatus and drawn upward, thus putting the anterior vaginal wall on the stretch. With a sharp scalpel or one with a convex blade a longitudinal incision is made, extending from the urethral mound to the vaginal attachment of the cervix. The two flaps thus created are now separated partly by blunt and partly by sharp dissection from the underlying bladder. In order to give ample room generous separation of the vaginal flaps should be made. The lower angles of the flaps are then held apart and the cervicovesical septum is divided by a semilunar incision about 1 cm. below the lowest attachment of the bladder to the cervix. Before making this incision it is prudent to pass a sound into the bladder and ascertain how far down upon the cervix the bladder reaches by gently pushing the sound downward and forward. The bladder is next pushed up from the uterus with the index finger, as is done in vaginal hysterectomy. A short vaginal retractor is now inserted into the anterior opening, thus keeping the bladder out of the way and exposing the vesico-uterine fold of peritoneum. The fold is caught with forceps and a transverse incision made with scissors just below their bite. Before loosening the hold of the forceps a suture is carried through the peritoneum above the point of the incision, and it is left long and clamped. Its purpose is to draw down the bladder peritoneum towards the end of the operation when the slit made in the peritoneum is sutured. The cervix is now pushed backward into the posterior fornix with the vulsella, thus tilting the body of the uterus somewhat forward, and with the anterior vaginal retractor in place a traction suture is carried by means of a short, stout needle through the exposed anterior uterine wall as high up as possible. With this suture the uterus is further anteverted and brought into the incision. It may take one or more additional traction sutures, each carried higher up on the uterine wall, to completely deliver the fundus through the incision. With the index and middle fingers the adnexa, one after the other, are brought into the incision, subjected to visual inspection, and to such surgical treatment as their condition calls for. It is astonishing with what ease in the majority of cases a resection of an ovary or of a tube can be accomplished in this manner. The adnexa having been replaced within the peritoneal cavity, the uterus is retracted to one side, and with a small fine needle a silkwormgut suture is carried behind the round ligament of the opposite side about three or four cm. from its insertion into the uterus. Some care is necessary in passing this suture to avoid the small arterial branches which supply the ligament, as a troublesome hemorrhage may occur from the needle piercing one of them. A second suture is passed in the same way one or two cm. nearer the uterine insertion. The ends of the sutures are secured above and below with small artery clamps, which may be numbered so as to avoid confusion when it is necessary to carry the sutures through the vaginal flaps. This procedure is repeated on the opposite side and the uterus is returned within the peritoneal cavity by pushing the fundus backward with the fingers and drawing the cervix downward and forward with vulsella. The outer round ligament suture is now carried with a leading suture through the vaginal flap at a point corresponding to the anterior lateral sulcus and as near the pubic arch as possible. The inner suture is passed through the flap at a suitable distance inward from the first. The same thing is done on the opposite side and the sutures are tied loosely in the vagina while the uterus is being held forward by means of the traction sutures. The traction sutures are then cut and removed. The upper edge of the peritoneum is next drawn down by means of the suture which is attached to it, and the slit in the peritoneum is closed by a continuous catgut suture. In the event of a cystocele or a redundant anterior vaginal wall having been present, a strip of suitable width is excised from each vaginal flap, and the two flaps are coaptated by a continuous catgut suture. The last couple of stitches are made to catch up the cervical tissue so as to attach the vaginal wall to the cervix, as normally obtains. When the uterus is unusually large and heavy, or when the uterorectal ligaments are put on high tension by anteverting the uterus, it is wise according to my experience to employ a single uterine fixation suture in addition to the round ligament sutures. This suture should not be placed too high upon the uterine wall so as to avoid the possibility of dystocia in the event of pregnancy. Finally, any operation on the cervix that may be called for is now done, and the posterior vaginal wall or peritoneum subjected to any plastic operation that may be deemed necessary. The patient is kept in bed for twelve days, at the end of which time the round ligament sutures may be removed, as may also the uterine suture if present.

Dr. Cushing of Boston opened the discussion by saying that he does not think there is anything new in the first part of this operation. He considers it better to do it from above and should only do it in those cases where it desired to operate on the cervix at the same time. He prefers to operate through an abdominal incision as then he is able to see all the organs and can remedy all defects that are apparent.

Dr. Sutton of Pittsburg said that he had done this operation with uniformly good results. It is to be hoped that the time is not far distant when the majority of abdominal operations will be performed through the vagina. At present it is possible to remove large fibroids or ovarian cysts by this route.

Dr. Bovée of Washington said that he sees little use for shortening the round ligaments through the vagina as Alexander's operation is a better one, there being no opening of the peri-

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toneal cavity. The greater number of cases of uterinal dislocation are due to injuries to the pelvic floor either as the result of childbirth or else through the faulty attachment of the fascia. The great point to be observed is to properly adjust the ligaments. If they are attached too high, lower them, or, if they be relaxed, take a reef in them. In other words, correct the deformity present in each particular case. When the fascia is torn high up the abdomen should be opened, the peritoneum dissected up, and the torn fragments brought together and sutured. Generally pelvic adhesions are present in all forms of dislocation of the uterus, so when performing Alexander's operation it is well to open the inguinal rings and explore the pelvic cavity before completing the operation. Constipation and infrequent urination are often the cause of failure after Alexander's operation.

SECOND DAY—MAY 2D.

Vaginal Route.—Dr. J. Riddle Goffe of New York continued the discussion of Dr. Vineberg's paper and said that the era of doing all pelvic operations by the vaginal route has arrived. No laparotomy is justifiable until an attempt has been made to perform the operation through a vaginal incision. The work can be performed quite as successfully as it can through the abdomen. He has performed myomectomy, and operated on ectopic gestation, dermoid cysts, salpingitis, etc., with great success by the vaginal route. In his opinion the best operation for the cure of retroversion is by making the incision through the vagina, then double the round ligaments on themselves. It is a much better operation than Alexander's, as it is applicable to all forms of displacement whatever their complication. In one patient he removed seven fibroid tumors by myomectomy through the vagina and at the same sitting cured a long standing retroversion by shortening the round ligament.

Dr. Sutton of Pittsburg said that he preferred the vaginal route to the abdominal, as drainage was always very much better through the vaginal vault than through the abdominal walls. Dr. Vineberg closed the discussion by saying that he had taken up the vaginal route because ventrosuspension by the abdominal method had not given good results in his hands. Each case should be considered very carefully for a certain proportion will require operation by the abdominal route.

A Comparison of Vaginal and Abdominal Operations, by Dr. G. Richelot of Paris, France, was then read by title and will appear in full in a subsequent issue of the MEDICAL NEWS.

Demonstrations of Casts Illustrating the Anatomy of Pregnancy and Labor.—These were shown by Dr. J. Clarence Webster of Chicago. The casts were made of plaster of Paris and had been modeled after frozen sections. They were an interesting demonstration of the good results which may be accomplished in this line of work.

Combined Nephrectomy and Ureterectomy.—Dr. E. E. Montgomery of Philadelphia said that he wished to report one case. It was that of a woman aged twenty-seven years whose family history was negative as was also her previous history, except that she had had several attacks of what she called inflammation of the bladder. These attacks were characterized by frequent and painful urination and a dull aching pain in the region of the right kidney which at times was relieved by the discharge of large quantities of urine. She has had some night sweats but she has no cough or expectoration. Her appetite is capricious and her weight 118 pounds, a loss of 32 pounds in the past five years. An examination of the urine showed pus and epithelial cells but no blood corpuscles, casts, albumin or sugar. Bacteriologic examination failed to show the tubercle bacillus. On examining the bladder with the cystoscope it was found that the walls were thickened and roughened and that they bled easily. After irrigating the bladder a Harris apparatus for separating and collecting the urine from each side was introduced. Urine was not obtained from the right while the urine flowed freely from the left. Examination of this urine showed it to contain pus and epithelium, but no albumin, casts, blood corpuscles or sugar. Examination for tubercle bacilli was negative, but the streptococcus was present. On making a careful physical examination, a semifluctuating mass was found on the right side at the level of the umbilicus, extending nearly to the median line. A pelvic examination showed the uterus to be slightly enlarged and somewhat movable. On the right side there was a marked indentation between which and the uterus the finger could not be passed. Despite the absence of bacilli in the urine the diagnosis of tuberculosis of the ureter and kidney was made and immediate operation was decided on. An incision was made in the vagina over the line of the right ureter and the tissue pushed back until the ureter was exposed as a hard dense cord as large as the finger. The ureter was then ligated and then divided with scissors, but unfortunately, in accomplishing the division the ligature and the uterine artery were cut. The latter was secured by pressure forceps. The introduction of a catheter through the urethra also demonstrated that the bladder had been opened. The vagina was packed with gauze and the patient turned on her left side and an incison was made in the right lumbar region. This exposed the kidney which was very nodular and contained about a pint of pus. This was evacuated and the kidney then removed. The ureter was then dissected out and the operation was completed by packing above and below with iodoform gauze and suturing all but the upper angle of the lumbar incision, which was left open for drainage. The woman made an uninterrupted recovery. Examinations of the specimens removed showed them to be tuberculous.

Anastomosis of the Ureters with Intestines.—

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A full abstract of this will appear later in the MEDICAL NEWS. The discussion was opened by Dr. Ford, who said that he would speak of an interesting case that had lately come under his observation. It was that of a young woman who came to him with the statement that she could only pass about one ounce of urine a day. Examination showed that practically no urine was entering the bladder, but instead it was all being passed through the bowels. The uretero-intestinal anastomosis occurred spontaneously from the passage of a calculus. Palpation failed to reveal the presence of the right kidney, while the left is clearly demonstrable, so he believes that she had only one. For the past year she has been passing about all her urine through the bowel and is apparently in perfect health. Repeated examinations of the urine have failed to reveal any evidences of infection of the kidney.

A Critical Survey of Ureteral Implantation.—Dr. W. Bovée of Washington read this paper and said that injuries of these ducts are apparently becoming much more common. These injuries take many forms, varying from the kinked ureter to the unintentional removal of several inches of the organ. Previous to 1877 there had been but two ways of dealing with a complete section of the ureter. These were the let-alone policy and nephrectomy. It is very probable that but for the popularity of nephrectomy, ureteral surgery would have had a much earlier elaboration. An only kidney was removed but a few years ago in this country, as was disclosed by the autopsy, and anuria existed twenty-nine days before death ensued. Practically all surgeons are now agreed that for severed ureter without much loss of tissue the best procedure is to unite the severed ends. This had been done by four different methods: (a) The transverse end-to-end method has been performed twelve times with two deaths, (b) the oblique end-to-end, once and the patient recovered; (c) the end-to-end, nine times with one death; (d) the lateral implantation or end-in-side, five times with one death. This gives a total of twenty-seven cases in which the cut ureter was directly united and of these four died. After all operations for the repair of the ureter the point of danger is the narrowing of the lumen of the duct by granulation. Uniting the ureteral ends is by far the best method of disposing of the divided ureter whenever this is possible, but it is difficult to decide which method is best suited for all cases. The peculiarities of each individual case and the preferences of the operator must decide each case on it merits and no general rule can be laid down. Considering the other operations for the relief of a divided ureter we find that ureterocystostomy has been performed eighty times. This is a much easier operation than ureteral splicing, which accounts for the number of cases in which it has been done. Of the thirty-seven bladder grafts for injuries of the ureters during abdominal operations, we find that fifteen were done by the intra-peritoneal method at the time of the injury with the result that one case died of extraneous causes and in two cases there was failure. Two were done by the extra-peritoneal plan and the statistics of the remaining number of cases do not state which plan was followed, but one case resulted in a failure. Of the cases done for fistula or other conditions it is found that there were forty-two, of which twelve were intra-peritoneal operations, fourteen by extra-peritoneal operation and in sixteen the method was not mentioned. This operation is especially indicated when in the course of an abdominal operation, section of the ureter in its pelvic portion is made and it is impossible or inadvisable to splice the cut ends. Ureteral fistulæ following operations, difficult labor or forceps delivery and congenital ureteral openings are also indications. Ferguson collected the statistics of 67 cases of ureteral fistula and found that 25 of them were created in parturition, in 16 of which the delivery was by forceps. In 12 cases vaginal hysterectomy was the cause, 2 were due to stone in the ureter and subsequent ulceration, 3 followed abdominal section, 1 was due to traumatism, 2 resulted from pelvic abscesses, 1 was spontaneous (probably tuberculous), 1 from a pessary and 1 from an undilatable stricture of the lower end of the ureter. In utero-vaginal fistula it is only occasionally that cure can be accomplished by vaginal plastic surgery and there is always the danger of relapse from a heavy strain or from cicatricial contraction. The methods of bladder grafting are principally by the abdominal route preferably by the extra-peritoneal method. It is impossible to make an anastomosis between the ureter and the bladder as good as the natural one, because the small muscles attached to the ends of the ureters and lost in the walls of the bladder near the internal meatus can not be utilized. Their function is to draw down the orifice of the ureter when the bladder distends, thus preventing obliquity of that duct through the distended bladder. The observation of careful surgical technic in all operations on the ureter is of the very highest importance, as a very slight infection may render the operation unsuccessful and endanger ascending infection along the ureter. Whenever the ureter requiring grafting is above the brim of the pelvis and ureteral anastomosis with itself or the bladder seems impossible one should consider the advisability of its implantation into its fellow. If this be impossible, then grafting into the bowel will be justifiable. Rectal implantation is indicated in the treatment of ectopia vesicæ, benign and malignant growths of the bladder, requiring the extirpation of that organ, and injuries of the ureter irremediable by ureteral or bladder anastomosis. Many hundreds of experiments have been made on animals to prove the feasibility of this method of procedure, but as a rule they have proved unsatisfactory. The operation has been performed 65 times on man. The recorded mortality has been 18, or a little less than 30 per cent. Six of these died from the shock and severity of the operation for the condition calling for the grafting. In at

least 7 cases death resulted in from 5 days to 2 years after operation, from infection of the kidney, peritonitis or other untoward result of the rectal implantation. In 5 cases the cause of death was obscure and in 2 cases the result is not published. When one considers that of deaths from all causes, 40 per cent. are from subsequent infection, the suspicion that some of the reported successful cases may also later succumb to infection, seems reasonable. This high rate of mortality must necessarily cause anxiety as to the justifiability of the operation and were it not for the excellent work of Maydl, followed so successfully by a number of other surgeons, one might look on the subject with almost condemnation. Only 8 deaths have followed the operations done by his method, a mortality rate of but 21 per cent., and the danger of peritonitis and subsequent kidney infection has been very greatly reduced. There are 5 methods of forming an anastomosis between the ureter and the rectum: (1) by the formation of a fistula between them; (2) by the axial implantation of the ureteral stump into the bowel and its fixation there by either the Lembert or the double-row suture; (3) implantation of both ureters with a piece of the bladder, as by Maydl, Pozzi and others; (4) implantation of both ureters with a small amount of the bladder mucous membrane; (5) by means of apparatus such as that of Calot and Boari. Of these the Maydl operation has given the best results. The skin implantation of the ureter has been advised by some surgeons, but it is believed that the danger of infection is very great and that nephrectomy ultimately would be required. The operation has been done 10 times with 3 deaths. One subsequently required nephrectomy, in 4 the result is not given and in 2 cases ascending infection occurred. These statistics clearly indicate that bowel implantation is a much more favorable operation. The ureter has been implanted into the vagina but 3 times, all of which were successful. But little can be said in favor of this method, for notwithstanding that the three cases in which it has been done were successful, yet it seems to be grafting a perpetual infirmity upon an individual. The ureters have been grafted in the urethra in 5 cases, in 4 of which ectopia vesicæ was the condition, the relief from which was sought. Three of these recovered and two died. This operation has a very limited field and it will never replace the method of bowel implantation.

Migrated Ovarian Tumors.—Dr. George M. Edebohls of New York read this paper by title.

Best Method of Extirpating Fibroid Uteri.—Dr. Howard A. Kelly of Baltimore then read this paper. After describing the various ordinary methods of operating that he had used, he said that he had now adopted a new method of his own. The technic for ordinary cases is to make a vaginal incision, then ligate the ovarian vessels on one side and also pass a ligature around the round ligament. The vessels and the ligament are then divided. Then open the top of the broad ligament and push down the bladder with the broad ligament and so expose the uterine vessels of that side, which are then ligated. The cervix is then divided, exposing the uterine vessels of the opposite side. The uterus, free from the cervix, is then pulled upward and outward exposing successively the round ligament and the remaining ovarian vessels which are then ligated. The cervical wound is closed and the peritoneum of the bladder drawn downward over the wounded area. In exceptionally difficult cases, due to the low origin of a low fibroid choking up the pelvis, and where the ovarian and uterine vessel are so spread out on the upper cervical surface that it is impossible to tie them in mass, a quicker and safer method is to grasp both cornua with strong forceps and then split the uterus and tumors down to the vaginal cervix. The cervix is then divided to the right and to the left, exposing the uterine vessels which are clamped. The uterus freed from the cervix is then pulled out first to one side and then to the other and the ovarian vessels controlled. In this way there is very much less danger from hemorrhage. Precisely the same methods of treatment are applicable to inflammatory cases. After removing the uterus in this way the adherent tubes and ovaries can be dissected out very easily.

Kelly's Method of Removing Fibroids of the Uterus.—Dr. A. Lapthorn Smith of Montreal read the next paper and spoke of the very good results which he had had by operating in the method just described by Dr. Kelly.

Intra-Abdominal Amputation of Uterus.—A modification of hysterectomy, by Dr. F. H. Davenport of Boston, was the next paper on the program. He said that the indications for hysterectomy are well established and its mortality has been reduced to such limits that it ranks with other operations as a thoroughly safe method of procedure. Interest is now centered in the technic. He believes in regard to the relative advantages of the vaginal and abdominal routes that one should be governed by the conditions of each particular case. If the patient be single or near the menopause, the case one of a small or medium-sized non-adherant fibroid and the patient object to the scar that would follow an abdominal hysterectomy, do the operation by the vaginal route. This has the advantage of being quicker, is followed by less shock and the period of convalescence is much more comfortable. On the other hand in a young married woman always perform an abdominal hysterectomy so as to retain the vagina in such position that it will be functionally serviceable. A shortened vagina with a contracted vault is not a desirable condition under these circumstances. There is no danger of the abdominal scar being stretched by a subsequent pregnancy and hernia, while a possible sequela is in these days of careful suturing a very remote one. It is generally best to employ the abdominal route when removing the uterus for chronic inflammatory conditions for the reason that there is usually concomitant dis-

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ease of the appendages and the abdominal route gives full opportunity to see the exact condition of all the pelvic organs and so what is necessary may be done under the control of the eye. The technic of hysterectomy may be much simplified for in many cases the body of the uterus alone need be removed, leaving the cervix and perhaps the lowest segment of the uterine body. Where the uterus is chronically inflamed, which keeps up salpingitis and perhaps peritonitis, it is only necessary to obliterate the uterine canal and remove the inflamed tubes to effect a cure. The lower part of the uterus and the cervix will drain freely into the vagina and ultimately undergo atrophy. The essential features in which his method differs from the operation as usually performed is that the uterine arteries are not ligated or, in fact, even disturbed. By whatever method these are treated, whether by tying the arteries or ligating them by including the whole thickness of the broad ligament near the uterus, it is more or less a difficult procedure. The first method involves the opening of the subperitoneal space, thereby increasing the chances of septic infection, and it is good surgery to limit the chances of this as much as possible. The technic of his method is as follows: The broad ligament of each side is seized by a long clamp running from the free space between the ovaries and tubes and the pelvic wall and ending close to the uterine wall at a point a little above the level of the internal os. A second clamp is carried down each side parallel to the first clamp. The clamps having been firmly applied there can be no bleeding. A needle armed with a fine silk ligature is then passed through the angle of the broad ligament between the ends of the clamps and is securely fastened. With a scalpel the uterine tissues are then divided at a level with this suture and in such a way that the anterior and posterior incisions slope downward and meet in the center. This is done from one side of the uterus to the other, a little at a time and the bleeding, which is usually slight, is controlled by the continuous suture which follows the incision. The needle threaded with the silk which has been tied at the angle is introduced into the anterior surface of the uterus just below the free edge, then carried through the tissues and finally brought out at the angle of the wound. It is then reintroduced into the posterior wall and emerges on the posterior surface of the uterus at a point corresponding to its entrance. This is drawn tightly and when enough free space has been gained by the use of the knife another suture is taken. This is continued until the body of the uterus is completely separated and the other side is reached. Then a final stitch is securely tied at the angle of the broad ligament between the clamps. By this method all bleeding is absolutely prevented. It is not necessary to strip the peritoneum off the uterus and the wedge-shaped removal of the uterine body permits the ready and close apposition of the peritoneum. Any little bleeding points on the line of the continuous suture can be controlled later by separate sutures. When the clamps which control the outer segment of the broad ligaments are removed the ovarian arteries may be seized and ligated. There is usually no bleeding from the rest of the broad ligament, but any suspicious points may be tied. This operation has many distinct advantages and it is surprising how often it may be substituted for the more radical one in which the uterine arteries are ligated. Among its advantages are the following: It takes a shorter time to perform; there is usually little loss of blood; it does not open the layers of the broad ligament, and convalescence, as a rule, is short and very free from disturbance.

Dr. Pryor of New York opened the discussion on the three preceding papers and said that when there are several fibroid nodules in the uterus his method is to first tie the ovarian vessels and then split the tumors. Traction forceps to hold the flaps apart are then applied and the tumors removed. The operation is completed by tying the uterine vessels.

Dr. Gordon of Portland, Me., said that for many years he had been employing the continuous suture, carrying it all the way down until the stump was completely covered. In his experience chromicised catgut is a very bad material for suturing as in many cases it is practically never absorbed and in time acts as a foreign body. Ordinary catgut has proven itself to be the best material for suture that he has ever tried and he has never had a case in which silk sutures were indicated, or a stitch abscess occurred. He employs a through-and-through buried silkworm-gut suture which are left in place for from two to three weeks. The ideal method of closing a wound consists in using for sutures only such materials as are easily absorbed.

Dr. Mann of Buffalo said that he believed the methods mentioned by Dr. Kelly and Dr. Pryor are not always the easiest. In those cases where the tumor is held down in the pelvis by the broad ligament, on cutting that ligament and the infundibuliform-pelvic ligament the tumor will come up. Then tie the uterine and ovarian vessels. This is an easier method than that advocated by Dr. Pryor, for the reason that, although the tumor can be removed in a few minutes by his method, the operation is not finished and requires a long time for its completion. It is generally better to tie off the broad ligament before removing the tumor as thereby hemostasis is more complete. The cervix should be dilated and a piece of gauze passed through it, as this will give very much better drainage than if the cervix be removed.

Dr. Baldy of Philadelphia said that he had had a case in which the tumor extended over the bladder. He opened the cul-de-sac posteriorly and performed the same operation as Doyen claimed for his own. Bad cases like these are rare, and such an operation as Dr. Kelly advises is only of use in an emergency. He considers Dr. Pryor's method to be a very dangerous one and not a good routine method of practice. It is an extremely

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difficult one for any but an expert, and so should be avoided by beginners. He had seen one operator in doing it tie both ureters and another one tie one ureter. However, it may prove to be a serviceable method of procedure in those cases in which the real character of the tissues are disguised by inflammation.

Dr. Reynolds of Boston said that he had adopted the method of tying the ovarian arteries on each side, then drawing the uterus up strongly, and putting on a clamp on each side one-quarter of an inch above the junction of the uterus and the bladder. He then cut just above the tip of the forceps on each side. A suture was then entered from before backward through the uterine wall and brought out just below the incision on the broad ligament. The same is done on the other side, and a wedge-shaped cut is made in the uterus extending down to the internal os. A suture is introduced to approximate the cut edges and the operation completed by turning the stump.

Dr. Johnstone of Cincinnati said that the personal equation is a very large factor in all operations, and that he believes that Dr. Kelly's troubles are all of his own making. He had had a similar case and after making a vaginal incision tied all of the vessels before doing anything else. The operation was easily completed and there was no bleeding to complicate it. The priority of uterine ligation should be credited to Dr. Polk.

Dr. Harris of Paterson said that the continuous incision is the easiest possible method of supravaginal hysterectomy, as it is not a difficult operation and it is well suited to all cases.

Dr. Kelly, in closing, said that the Guyon method is merely a series of surgical gymnastics, suitable only to very easy cases, as it can not possibly be performed in difficult ones. The bisectional method is especially good in bad cases, as there is no risk to the ureters if one is careful to push down the bladder. He does not believe it good practice to remove small fibroid uteri, and in dealing with those which are of such small size that a clamp can be used, he either performs myomectomy or else does not operate upon them at all.

The President's Address.—This was delivered by Dr. George J. Engelmann of Boston. After reviewing at length the history of the Society since its foundation and the progress made in gynecology and obstetrics during that period, he said that he would direct the attention of the Society to the subject of menstruation. This is always a period of danger, a period of highest susceptibility, more dangerous to the nervous organism than to the physical structures. It is in puberty and the formative period that this all-pervading function which controls woman's entire being is readily moulded and controlled by surrounding conditions of all kinds. Puberty or the establishing of functional life is swayed by the most varied conditions; race and climate influence its advent, but equally, if not more so, is it controlled by social conditions and mental status. It is most important to note the effect of mental activity. Many investigators have shown that the wealthy and the city-born are more precocious than their poorer or their country-bred sisters, but my own investigations more especially indicate the influence of mental stimulus. Thus, out of 2315 patients who came under my observation in St. Louis dispensaries, the average age at which menstruation commenced was 14.24 years, while Dr. Chadwick of Boston has found much the same, for in his 2500 cases the age was 14.3 years. In 697 cases from a consulting practice throughout the Southwestern States, country-bred women, the average age was 14.3 years. The average in 800 cases among Boston's highest class working-girls was 14 years. Among the high and normal school girls, the 750 of whom statistics were collected gave the average of 13.8 years. In 1200 college girls the average was 13.5 years. Neither birthplace nor parentage influences the development of the girl and the appearance of puberty, as do the surroundings of childhood and early youth, which give a variation of one year, as noted in the 5000 cases which have been under observation. The author emphasized the susceptibility of the function to mental influence and likewise the controlling influence of the function upon the anatomical, physiological and pathological status of the growing girl.

(To be Continued.)

REVIEWS.

A Pocket Medical Dictionary. Fourth Edition, Revised and Enlarged. By GEORGE M. GOULD, A.M., M.D. Philadelphia: P. Blakiston's Son & Company.

THIS is a convenient little book to have at one's elbow. The text is clear, the pronunciation of each word is given, and the definition is concise and comprehensive. In this new edition a large number of additional eponymic clinical terms have been introduced, the dose-table has been enlarged to include doses and drugs recently introduced, and a number of inaccuracies in former editions have been corrected. It has flexible covers and gilt edges.

Progressive Medicine, March, 1900. Quarterly Digest of Advances in the Medical and Surgical Sciences. Edited by HOBART AMORY HARE and CHARLES ADAMS HOLDER. Volume I, March, 1900. Lea Brothers & Co.: Philadelphia and New York.

THE first volume for the second year of this periodical, containing, therefore, the first repetition of the review of the subjects treated, shows that the original purpose of the editor and contributors is being kept thoroughly in view. Progressive Medicine supplies a very personal authoritative discussion of the latest subjects of interest in medicine, surgery and the specialties.

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Dr. J. Chalmers Da Costa's review of the various incisions suggested for the radical operation for cancer of the breast is illustrated in a manner to make this subject extremely clear. The success of Halsted's method of operation and the number of adherents it has gained among prominent surgeons all over the world are well brought out. The place of Beetson's method, the removal of the ovaries and the administration of thyroid extract for inoperable carcinoma of the breast, is made very clear. That some good is accomplished by this method there is no reason to doubt. The ultimate effect of the treatment is, however, as yet entirely unknown.

Acute articular rheumatism is very properly included among the infectious diseases. Dr. Frederick Packard makes a plea for the more careful use of the word rheumatism. Too many vague painful conditions are grouped under this term. The use of such expressions as gonorrheal rheumatism, scarlatinal rheumatism, pyemic rheumatism, is deprecated because they give a false idea of the nature of the process at work. The conclusion is suggested that the near future will demonstrate acute articular rheumatism to be really a modified pyemia. It is not, however, so much the actual presence of micro-organisms in the blood which causes the manifestations of rheumatism as toxic principles of a chemical nature whose presence sets up symptoms of the disease. The humoral theory that attributes acute articular rheumatism to the excessive formation of lactic acid in the blood is set down as utterly unconfirmed. It is not impossible, however, that a certain amount of this substance is produced during the course of the rheumatism and causes some of the arthritic symptoms. But it is a secondary not a primary factor in the rheumatic condition.

Dr. Blackader has a very timely review of the affections of the alimentary tract in children and of the modification of milk for infant-feeding during the trying summer months. Variations in the amount of the different constituents of cow's milk during the uncertain feeding of the grazing period—the spring and summer—are especially dwelt on. The question of the addition of cereals to milk is treated from the standpoint of the new interest that has been awakened in this subject during recent years. There seems now no reason to doubt that the addition of cereals, instead of being harmful, is always beneficial. Nitrogenous elimination in the infant is always decreased by the administration of a certain amount of carbohydrates. Heubner's investigations emphasize the importance of non-nitrogenous food because it favors growth by protecting the albumens from useless decomposition. This is a new idea and one which shows that pediatrists now recognize that the problem of infant-feeding is no longer the simple chemical question of digestibility but that there are a number of important biological factors that enter into it.

Other things in the volume might be mentioned, such as Dr. Randolph's review of mastoid complications and sinus thrombosis, Dr. Turner's discussion of the use of new therapeutic agents in the nose and throat, and Dr. Haktoen's review of the theory of antitoxin and of the recently-discovered pathogenic micro-organisms; but amidst so much that is good the reviewer is limited in selection.

The Year-Book of the Nose, Throat and Ear. Nose and Throat edited by G. P. HEAD, Professor of Laryngology and Rhinology, Post-Graduate Medical School of Chicago; The Ear Edited by A. H. ANDREWS, Professor of Otology, Post-Graduate Medical School of Chicago. Chicago Medical Book Co., 1900. Pp. 274.

THE editors have in this work abstracted the special literature of the past year and have grouped it under appropriate anatomical and pathological headings. Thus, with the aid of the fairly complete index a large amount of useful matter is placed within easy reach of the general practitioner. The foreign journals have been freely consulted, and special articles have been devoted to some of the newer remedies, such as suprarenal extract, heroin, and orthoform. One finds here the different methods in vogue among specialists the world over. The remedies for tuberculous laryngitis, for instance, include scarification, curetting, electrocautery, submucous injections of creosote, intratracheal injections, lactic acid, formic acid, formaldehyd, orthoform, iodoform, para- and ortho-monochlorphenol, guaiacol, ichthyol, absolute alcohol, lanoline containing 3 per cent. naphtalin and oxidized tubercle toxins. In the body of the work a fair number of useful prescriptions have been included. Although the editors are themselves specialists they rarely express opinions of their own, but leave the reader to his own summing up of the literature, and his own choice of remedies.

THERAPEUTIC HINTS.

Hot Local Baths for Infected Wounds.—*Platonov* uses this treatment with excellent results; the secretion of pus diminishes, the healing process is quickened, and the immediate effect is soothing. He finds it best to give the baths just before renewing the dressing. The temperature should be from 90° to 104° F.

Varicose ulcers also improve under the bath treatment; the sloughs are thrown off more rapidly, and the secretion loses its fetidity by which it is often characterized. In case of infected wounds cicatrization is hastened; this is, however, not true of varicose ulcers.

For Chancroid.—*Frolov* highly recommends the biniodosalicylate of soda in the form of a 2 per cent. ointment for recent cases, or 10 to 15 per cent. in neglected cases. It acts as a cautery, gradually destroying the diseased tissue at the periphery of the sore, although it is almost or even entirely painless, and possesses the added advantage of being odorless.

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THE MEDICAL NEWS.

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ORIGINAL ARTICLES.

CYSTITIS PAPILLOMATOSA.

BY FREDERIC BIERHOFF, M.D.,

OF NEW YORK;

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THIS condition occurs in the female as a form of chronic cystitis, and may present the clinical picture either of the catarrhal (usually called "irritable bladder") or of the suppurative form. Its symptoms are frequency of urination, accompanied by more or less pain, and tenesmus, the urine passed being clear, or turbid. Bleeding, which is usually a characteristic symptom of true vesical papilloma, does not occur spontaneously, although it may follow instrumentation, as the tender, hypertrophied, inflamed membrane bleeds very readily. Its seat is at the trigone, which it usually covers, and it may extend over into the urethra, from which at times it appears to start. Its villi, or papillæ, spring from an inflamed base and are discrete.

On cystoscopic examination, the entire trigone is found to be the seat of a well-marked inflammatory process, the mucous membrane, from the ligamentum interuretericum to the sphincter internus, being of a deep red color, while the surface has a grayish-red, cumulous appearance, the result of the diminished power of reflection of the inflamed membrane. The rest of the bladder is normal. If the window of the cystoscope be brought near the surface of the mucous membrane, this cumulous appearance changes so that the suspicion is aroused that one has to deal with a papillary growth. Viertel[1] stated his belief that, in some cases of chronic cystitis, the satiny appearance of the inflamed mucous membrane was due to the beginning formation of papillæ. This suspicion may become a certainty by the employment of the following simple procedure, which I employed to remove the doubt as to the nature of the growth in the appended cases: The uretercystoscope is armed with a ureter-catheter, and inserted into the bladder (in my work I employed the Nitze-Albarran cystoscope), so that the window lies directly over and close to the inflamed area; the catheter is then gently laid diagonally upon this surface, or is passed over the surface at an agle. It will at once sink into the mass of papillæ, or pass between them, and the individual papillæ will stand out distinctly as discrete, rosy-red tongues, against the deeper color of the catheter.

The following cases are illustrative of this condition:

Case I.—Frau S., aged fifty-two years, widow. Her only complaint is of frequency of urination, the act being accompanied by pain, and the stream of urine is, at times, interrupted. The urine is normal.

Cystoscopic Examination.—At the trigone, an area of diffuse redness, covered with papilloma-like excrescences. Distortion of the left side of the bladder. Otherwise normal. Declines treatment.

Case II.—Frl. Marie P., aged twenty-six years, July 20, 1899. For some months the patient has complained of frequent and painful micturition (is awakened once during the night by the urgent desire to urinate), the act being preceded and followed by tenesmus and accompanied by burning. She has also noticed a slight urethral discharge. Has never had gonorrhea. Menstruation regular; patient habitually constipated. Says that, during childhood, she suffered from renal disease for a long time. Urethal secretion is of mucous character. Microscopical examination reveals few leucocytes, abundant epithelia, diplobacilli, diplococci (not gonococci), streptobacilli and stroptococci. Urine turbid, acid. Filtered, contains albumin. Sediment contains many leucocytes, epithelia, amorphous urates.

Cytoscopic Examination.—The trigone and lower rear and side walls are inflamed. Trigone, including the sphincteral margin, the seat of a papillomatous new growth, upon a broad base. At one point the surface is covered by a blood-coagulum.

For the present, irrigations with boric acid solution. July 31st: On the 25th and 26th inst., injections of nitrate of one-per-cent. silver solution. Urine is still slightly turbid, acid, and contains a trace of albumin. Pain and tenesmus have disappeared. Patient urinates at normal intervals. Edema of the lower extremities. Further cystoscopic examination shows decided improvement. New growth diminished in prominence. Further treatment.—In addition to irrigations, acetate of potash, 10 grains, twice daily in water.

August 2d: Urine decidedly turbid, acid; contains albumin. Edema less marked. From this time on, injections of one-per-cent. nitrate of silver solution daily; later every second day.

August 4th: Catheterization of ureters. Urine from left kidney perfectly clear, slightly alkaline, free from albumin; that from right kidney entirely clear, alkaline, contains trace of albumin. Boric acid, 3 grains three times daily, in water, was used to replace the acetate of potash.

August 11th: Much improved. Urination normal. Edema disappeared.

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August 18th: Cystoscopic examination reveals dark-red area on the lower, left portion of the trigone.

September 4th: Condition normal. Urine normal; cystoscopic examination shows a normal bladder. An endoscopic examination shows some diffuse redness of urethra. All treatment was suspended.

September 11th: Condition normal. Urine normal and free from albumin. Discharged cured.

Case III.—Frau T., aged thirty years, September 7, 1899. Retroflexio uteri, perimetritis. Periods of frequent, painful urination alternately with the normal state. Patient, during the abnormal periods, must urinate "every few minutes" during the day (not during the night) and each time only a few drops of urine are passed. The act is accompanied by cutting and burning pains, and preceded and followed by tenesmus. The urine is normal.

Cystoscopic Examination.—Entire trigone covered with rosy-red, translucent papillæ, springing from an inflamed base. Injections of nitrate of silver solution, beginning with one-fourth of one-per-cent. were employed.

September 12th: Improvement in symptoms. Urinates at normal intervals. Urine is normal. Later withdrew from treatment.

Whether this condition is an early, developmental stage of the broad-based, vesical papilloma, or only a condition of extreme hypertrophy of a chronically inflamed mucous membrane, I am not prepared to say with certainty, as I have been unable to examine the condition histologically. I am inclined, however, to look upon it as a form of chronic cystitis.

In many cases such as these, which rest upon the border-line, the differential diagnosis between cystitis and vesical tumor is exceedingly difficult. In this connection Casper[2] says that in many cases of chronic cystitis the vesical mucous membrane even grows into tumor-like ridges; that "the difficulties in diagnosis are greatly increased when the growth is comparatively flat and the projections upon the mucous membrane relatively pronounced. It may become practically impossible to determine whether the object is a tumor, or only a prominence of the vesical mucous membrane. In reality, these things are at times identical, only bearing different names. We know tumors which represent nothing else than marked papillary excrescences of the submucosa, covered with greatly thickened epithelium." He also mentions the fact that frequently, although not in all cases, the tumor-like formations are circumscribed, while the areas of swelling and hypertrophy of the mucous membrane are diffuse, and that, while the latter are usually multiple, this is not so often the case with tumors. Kolischer[3] mentions a form of "granulating cystitis," in which the entire bladder-wall is covered with regular, light-red granulations, and has the appearance of coarse, red satin, and that, at times, the single granulations are very large. Güterbock,[4] in dealing with the pathological anatomy of chronic cystitis, mentions the fact that at times the mucous membrane is hypertrophied and the folds are enlarged so that they form condylomatous, less often polypoid excrescences, which may be differentiated from real tumors by their greater multiplicity and their transient character. In describing new growths of the bladder, he says: "The most frequent form is the simple, papillomatous growth—which is really differentiated from the before-mentioned inflammatory growths (in chronic cystitis, as mentioned) only by its somewhat greater persistence. It seldom occurs singly, is usually multiple, usually affects the region of the trigone, and occurs both peduculated and broad-based, etc." White and Martin,[5] in describing vesical papillomata, state that: "They may form a villous surface, made up of closely-grouped, fine papillæ springing from the mucous membrane, etc;" while Martin and Taylor,[6] in describing chronic, catarrhal cystitis, state that: "Often the epithelial proliferation may be so active that villosities are formed—minute excrescences composed of a capillary stalk surmounted by epithelium, and bleeding readily. Mucous polps are also seen; in these the vascular elements are less pronounced, while the epithelial overgrowth is such that they quite resemble papillomata." Herring[7] speaks of the benefit to be derived from the use of nitrate of silver solution in the treatment of vesical hemorrhage due to papillomatous growths; but, unfortunately, makes no mention of cystoscopic examination of his cases.

A perusal of the descriptions given by the different authors quoted above proves that, as Casper stated, much confusion exists in the differential diagnosis between chronic cystitis and vesical papilloma, and a comparison of the above cases with the diagnostic points mentioned by these authors demonstrates that they might be classed both as chronic cystitis and as tumor. Since the hypertrophic process, however, occurred invariably upon an inflamed mucous membrane, and as, in the one case which could be treated to the end, the papillæ disappeared with the cure of the inflammatory process, I am inclined to look upon the process as a chronic cystitis. The improvement under similar treatment that has attended other cases confirms me in this opinion.

I am indebted to my friend and colleague, Dr. R. Knorr, for the permission to make use of the cases quoted.

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MEDICINAL AND NON-MEDICINAL REMEDIES; WITH POINTS ON HYDROTHERAPY, DIET, AND MASSAGE, IN CERTAIN DISEASES ATTENDED WITH HIGH TEMPERATURE.

BY CHARLES E. PAGE, M.D.,
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IT is a promising sign of the times that more individuals in the profession of medicine are becoming somewhat skeptical as to the virtues of even the most vaunted of the potent drugs in common use in the treatment of disease, than at any previous time in the history of medicine, and giving more thought to the study and practice of more natural methods.

"The history of medicine illustrates the fact that modern therapeutics only attains perfection when it approaches most nearly to the teachings of Hippocrates," says Dr. Edwin W. Pile, Fellow of the New York Academy of Medicine, in a recent article. "In most cases of sickness had simple water been administered, and those natural means which automatically operate to maintain health been employed, the sick would have been benefited and the doctors' reputation improved." Herein may be found, in great measure, the secret of the success of many empirics; these men having followed more nearly than have the grand army of regulars the teachings of the "Father of Medicine."

In an address before the Reading Pathological Society (*Lancet*, January 6, 1900) on Uric Acid, J. F. Goodhart, M.D., LL.D., Consulting Physician to Guy's Hospital, says: "For myself, I cannot but think that had it not been for our eagerness to get hold of something to 'treat,' the uric-acid theory that is dominant at the present time would never have become the fetish that it has.

"One of the weaknesses of our profession is this, that we incline to do too much; and in so doing overtreat disease. Do not you find, you, my hearers, who have come to middle age and passed it, that one of the chief pleasures of your position is that of having a firmer conviction of the self-righting power of the human body? Let it alone; give it time, rest, freedom, fresh air. It must be so; for I hear it said on all sides of the ripe and mellow go-aheads of but a few years ago, by their juniors, the go-aheads of to-day, how much less active they are than they were when they began to make their names. Yes, they now wait and watch. Alert still, but with a chastened judgment that is well worth study. And surely this tells us that their experience has taught them to take an ampler view of the buoyancy and tenacity of life; that they have seen that many of their earlier efforts were petty interferences with greater power that tends almost inexhaustibly towards health, and 'trusting the larger hope' they have shed off the immaturity of meddlesomeness."

But still, as it seems to the present writer, this savors too much of the faith-cure to be altogether soothing to the mind of the perplexed student, however desirous he may be to mend his ways. Of course, it is vastly better, when in doubt, to do nothing than to do things that are harmful; but in all the length of Dr. Goodhart's address there was scarcely a hint as to physiologic treatment of disease. Throughout the profession, regular, empiric, or what not, there is a proneness to "harp on one string," so to say; that is, to treat disease with drugs alone (too common a practice with the regular profession); with hydrotherapy alone (the habit of many empirics); with massage alone (now posing as osteopathy); with faith in *vis medicatrix naturæ* alone, the scheme of many in the regular profession who have lost confidence in the virtues of drugs, but who have failed to learn the lessons taught by the success of the pure and simple hydropaths, osteopaths, and above all of the hygienists who employ both of the foregoing methods together with many other helpful procedures, as therapeutic fasting, sun-baths, air-baths, etc.

The prince of physicians is he who is expert in all of these potent measures for aiding the disordered organism in its efforts to regain that just balance which we term health. Were I to be shut up to a choice of one only method out of all those above named, I would assuredly and without hesitation adopt hydrotherapy in the treatment of all diseases, chronic or acute; this would be my first choice; drugs, alone, my last. Between these two, for an active and potent method, we have massage, and in a wide range of disorders, and when skilfully applied, no well-informed physician will lightly estimate its value. Beyond a doubt we often take the risk of losing a patient to the masseur when, in loyalty to our client, we call in the aid of an expert in this treatment; and this, too, when he means to be loyal to his chief. For rightly applied his work is so beneficial, and to the patient's mind apparently the only thing needed, that it will often happen that the latter will get in the way of employing this form of treatment without consulting the physician who has been honorable enough to take this risk in his desire to bring in every possible aid to hasten a cure. I am aware that many physicians have felt compelled in self-defense to refrain from recommending massage on this account. For myself, I would rather lose any patient into the hands of a masseur now and then, than take any chance of losing him into the hands of the undertaker.

It is a glaring, if not a criminal, fault of our medical schools that except in the most superficial way nothing is done in the way of teaching hydrotherapy or massage. Hydrotherapy and the medical schools is a question which of late has exercised the minds of a few of our leading medical men. The editor of the MEDICAL NEWS recently discussed this topic at considerable length and most intelligently. The views of several medical men were quoted, the text being the essay of Professor Putnam of Harvard University on "Hydrotherapy: Its Scientific Basis." In the

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discussion following the reading of Professor Putnam's paper, Dr. Coggeshall insisted that "it is disgraceful that students should be allowed to graduate from our medical colleges with practically no systematic teaching in regard to non-medicinal therapeutics;" and Dr. Rogers remarked jocosely that "medical colleges ought to cease graduating men who don't know a Scotch douche from a hot Scotch!" Kussmaul was quoted as follows: "Of hydrotherapy the young physician knows almost nothing. Here is a great gap in the education of our physicians; here is the real cause of his inability to cope with the empiric for the favor of the public!" And yet we are fond of sneering at the empiric's work, when we should be quick to recognize its value and hasten to profit by it. Another pregnant sentiment, that of Prof. Credé of Leipzig: "If physicians were better versed in these branches (hydrotherapy, massage, etc.), the field of operation of many quacks would be greatly curtailed." That is to say, if we were as well informed as the empirics we would do as good work and drive them from the field; for the quack is tremendously handicapped in many ways: "The laity generally require their doctors to be labelled 'safe' [that is, regular]," says the *British Medical Journal* for January 13, 1900, in an editorial on "Information *vs.* Education." The *Journal* justifies the criticism that has been made that at the end of five years medical students, having gained their diplomas through cramming, go out as assistants, having been taught the latest pathologic theories, but no common sense;[1] that they are stuffed with knowledge but cannot learn. Their real training does not begin until they are delivered from their teachers and thrown on their own resources. "In this," continues the editor, "we believe they (the critics) are right. The examiners feel that the public is only saved from indiscriminate slaughter if the student knows the three actions of the pancreatic juice! The examiners therefore will continue to demand a store of information, and students will in consequence postpone until after their diplomas the acquirement [reacquirement?] of that common sense whose absence we all deplore in one another."

But, does all this mean the banishment of drugs from our therapeutics? Not necessarily by any means; although it certainly is the conviction of many of the foremost medical men of our day, that as drugs are employed by the great proportion of medical men, practically as an exclusive means in the treatment of disease, they do vastly more harm than good. Let us consider some of the ways in which certain drugs injure the prospects of recovery. Take, for example, a typhoid fever patient who, in spite of lack of appetite, in face, even, of a loathing for food, and whose tongue is heavily coated, clearly indicating a stomach devoid of gastric juice, and an utter impossibility of food-substances being dissolved, preserved, and fitted for intestinal digestion; intestines, indeed, loaded with fermenting or putrescent aliments—a patient in this deplorable state, we will say, becomes a victim to still further forced-feeding till his temperature is forced up to what is considered a dangerous point. In such a case the average physician is apt to give heavy doses of, let us say, antipyrine, which may cause a sudden drop of the temperature to near, possibly below, the normal. By this means a heavy blow has been struck at the vitality of the patient, a blow at the very force which it is our first duty to exalt in every possible way. While it is doubtless safe to say that by means of early therapeutic fasting, the profuse drinking of fresh, cool water for a few days, the condition above described would have been avoided, still the physician may be called to a patient already thus diseased; something surely needs to be done in the way of active treatment.

A case of this kind came under my care not long ago. The patient, a man about thirty years of age, had been constantly fed with milk, beef-tea, switched eggs, etc., and well drugged, from day to day, although the food had been taken under protest. His temperature was 104.5° F. There was some delirium; great distention of the bowels, and severe pain. I at once gave him the benefit of a Brand bath, in water at 67° F., for fifteen minutes, with active friction of the skin during every moment he was in the water; and several pitcherfuls of cool water were poured over his head meanwhile. No part of this procedure was designed for the purpose of abruptly "downing the temperature," be it understood,[1] but for its bracing effects on the heart and nervous system. Directly after returning the patient to bed, without drying the skin or returning the night gown, and having the feet and legs well manipulated by a skilled masseur with his hands moistened with hot olive oil until the extremities glowed with warmth, I administered fifteen grains of Riedel's salipyrin. The bath completely restored the patient from his delirium, and he went off into a restful sleep of an hour. On waking his temperature was found to be 102.5° F. I did not take the temperature immediately after the bath, but from past experiences I have no reason to believe that it was much, if any, less than when he entered the bath. From this time I employed the damp bandage (two-ply coarse linen towel, wrung tightly from ice-water, with two-ply, same, dry, outside) as the only hydrotherapeutic procedure, except so far as cooling the head with cold compress to the fullest soothing degree, whenever it was required for the patient's comfort. This procedure, the cold compress for the head, is not a light, damp rag, nor

[1] The late Prof. John Kirk of Edinburgh used to say of medical students that they entered college with plenty of common sense, and departed with it pretty much "educated" out of them; and that it took the average bright lad half a lifetime to unlearn the mistaken teachings of the medical school, while the ordinary ones never recovered.

[1] Dr. Brand, himself, who for thirty years or more did so much to popularize this measure, which in his hands, and in those of Vogl, Juergensen, Winternitz, etc., reduced the death-rate in typhoid fever practically to nil (one series of cases numbering 1223 by this method, treated by the three first named physicians, in hospital and private practice, resulted in mortality of 1 per cent.), died lamenting the fact that physicians generally completely misunderstood the theory upon which this bath was employed by him and his immediate confrères.

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even the folded towel put on and left to become over-heated; but the latter is to be firmly pressed about the head, the hair being well wetted first, and freshened as often as it gets heated up. The same is to be said of the "damp bandage," which should extend from the pit of the stomach to the hips, and freshened every hour, or two, or three, as the case may be, according to the rapidity of heating up. These two procedures are perhaps of all those at our command of the most universal application, giving the greatest degree of comfort in an endless variety of disorders accompanied with high temperature. Several years ago, when my eight-year-old son was a babe of three years, the little chap was wakeful and uneasy one night after being put to bed, and kept crying out in apparent distress. I went to him, and for the moment my presence seemed to suffice for his needs, and with a soothing word of good night I turned to come away. I had not crossed the threshold of his chamber-door when he cried out again in great grief. Returning to his bedside I asked, "What do you want, Charlie?" At the top his voice he bellowed out, "I want a cold pack!" Well did he know from former experiences the delightful effect of the damp bandage. Applying the bandage deftly, as quickly as it could be managed, I straightened out his little nightgown and brought the bedcovers nicely about him, and he was in a sound sleep within one minute of time. Not another movement or note from him for the night. I visited him a couple of hours later, and finding the inner, damp folds getting somewhat hot, I quietly removed the bandage without his waking; he slept quietly the balance of the night, and awoke fresh and bright in the morning. He had suffered from an attack of indigestion, was hot and uncomfortable, and the right remedy worked like a charm.

But to return to my fever patient. A full cool water enema brought away a vesselful of milk-curds and all manners of putrescent food-substances, to his great comfort; directly the skin became moist, and he dropped off quietly into a sleep lasting a couple of hours, from which he awoke refreshed. He had from this time on for the next ten days what I regard as the true "physiologic diet" in fever, *viz.*, water, fresh and soft, and cool, not ice-water. Occasionally he was given moderately hot water, and altogether he took from three to five pints every twenty-four hours. The fluidity of the blood was thus made to approach the normal point; the urine, before scant and high-colored, became more profuse and natural in complexion; sordes disappeared; the tongue began to clean, and he was very shortly a "comfortably-sick" man, with small need of much attention from any one.

Occasional half-doses of salipyrin during the first few days was all the medicament employed, and seemed to work entirely to my satisfaction, causing no discomfort to the patient, whose temperature kept down near 101° F., a mild fever which might properly be considered a normal adjustment to the bodily condition. He went on without a skip from convalescence to perfect health. In accordance with my instructions, that "when he thought he could take a piece of stale Graham bread for 'pie' he might try it," about the eleventh day he began eating. He was allowed a moderate portion of this bread twice a day for a couple of days, dry on the tongue, so to say; that is, he chewed every mouthful until it was semi-fluid with saliva alone. Water was given *ad lib.* whenever the stomach was empty. Shortly after this he was allowed moderate portions of stewed prunes as dessert; but the greatest caution was taken to prevent overfeeding. No tonics to stimulate appetency; no tempting dishes were placed before him or talked about, and the results fully justified the entire management of the case.

During the present winter I have had a number of cases of grip in charge. I have come to regard this disease as one of flannels and food; of overclothing, chiefly. Of course, overfeeding is a universal habit. During "unseasonably warm weather" in winter, or, in fact, indoors at any season, the wearing of heavy inner and outer clothing is in the highest degree unhygienic. In all my cases this winter I have stopped all feeding until convalescence was established, giving moderate doses of salipyrin, with plenty of cool water, usually aborting the disease in from three to six days. I employ the cold compress freely over the chest for any indication of pneumonia. During the first twenty-four to forty-eight hours in most of these cases I employ the damp bandage as above described, and always with comfort to the patients. In a number of cases I have employed as a beginning of the treatment the hot foot- and leg-bath to the point of provoking a full sweat, as follows: Have the patient's feet and legs well up the calves in water at about 100° F., having some portion removed and replaced with boiling water from time to time, making the water a little hotter and hotter, as the patient can bear it without discomfort. In thirty to forty minutes he is in a profuse sweat; then he is sponged all over with dilute acetic acid (1 to 16) and put to bed. He is sufficiently, but not over, wrapped, and he is ordered to have his sleeping-room windows well open throughout the night. In all these cases, too, it is found that well-applied massage is both soothing and curative. Nothing will more speedily drive away all semblance of the shivery, shakey, disagreeable feeling so common in these cases.

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ORGANOTHERAPY IN TABES AND OTHER NERVOUS DISEASES.

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NOTWITHSTANDING the widely different opinions expressed by undoubtedly keen, painstaking and otherwise reliable observers in regard to the employment of testicular extract in the treatment

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or locomotor ataxia and other nervous conditions, the writer was tempted to try its effects in a case of tabes in its initial stages, in which other curative and palliative measures had failed to relieve the especially distressing incontinence, bladder and rectal crises, etc., and also in a case of Parkinson's disease.

The literature on the subject is certainly attractive in its excessive praise or condemnation of the remedy, and, even if "suggestion" is the prime factor in the majority of cases cited as benefited by the testicular fluid, the fact still remains that careful observers in carefully conducted trials have found cure or amelioration.

The theory of Dana regarding tabes is that "the specific toxin, enclosed within the subdural and subarachnoidean spaces of the cord and cranial cavity, acts especially on the highly organized posterior spinal ganglia, which, with their special vascular supply, furnish much more opportunity for mischief than the non-vascular anterior roots." If we accept this or any other toxin theory, what could give a more attractive field for the antitoxic possibilities of sero- or organotherapy? That the pathologic conditions already existing should be restored to a former, normal state, none could expect, while again the arrest of an advancing pathologic process is certainly not beyond reason.

One does not need Brown-Séquard's scientific enthusiasm to recognize as a fact beyond doubt that a properly prepared testicular extract certainly has a powerful effect on the nervous system. It is, again, hardly possible to say whether this is brought about—as another eminent enthusiast on the subject, Professor Poehl of St. Petersburg, claims—by its acting "as a ferment in textural respiration, oxydizing the products of retrogressive metamorphosis, freeing the textures from an accumulation of the products of malassimilation and reducing an abnormal, diminished alkalinity of the blood to its normal state." That Charcot found no cure of ataxia from the employment of orchitic fluid in his clinics is no proof against the possible antitoxic properties of a properly prepared testicular extract to the tabetic toxin. Nor must we necessarily coincide with Collin's view, that "the annals of so-called testicular therapy constitute a memorial to the fatuousness of man." We need only to recall the persistent and prejudicial opposition, as well as visionary and hyperenthusiastic favor that diphtheria and other antitoxins called forth to recognize that cool and impartial judgment must be the starting-point in every experiment. It is therefore refreshing to note the moderate and modest remarks on the subject in Foster's excellent "Reference-Book of Practical Therapeutics," from which condensed and reliable information has been drawn that, notwithstanding the fact that in none of the author's own cases had any especial benefit been noticed in tabetics, still he did not feel justified in condemning as useless a remedy that had been found of value by so many reliable observers.

Before relating the very typical case of locomotor ataxia in which the writer has found pronounced benefit from the hypodermatic use of testicular extract, a hasty glance at the literature of the subject may not be amiss.

Dana says in his "Text-Book of Nervous Diseases" that "there is some evidence that the extract of the testicle has a tonic effect on the nerve-centers."

In Loomis-Thompson's "American System of Practical Medicine" we find on page 209: "Suffice it to say that apparently reliable testimony is on record of cases of tabes arrested by testicular fluid, and very numerous examples of marked symptomatic improvement. Recent experiments in a series of nineteen cases of tabes at the Infirmary for Nervous Diseases in Philadelphia by F. S. Pearce, under the direction of S. Weir Mitchell, tend to support the claims made by the French for this remedy. Every effort was made to exclude the effects of suggestion, the patients being unaware of the nature of the remedy employed."

Dr. Paul Gibier in the *New York Therapeutic Review*, Vol. II., No. 2, claims that "in the four cases of tabes treated by him with testicular extract all showed improvement in general health. In one of the cases the bladder regained its power, constipation disappeared and walking improved. In another the weakness lessened, standing became possible with the eyes closed and diplopia disappeared. In still another the severe pains were relieved, sensation was very much improved and walking became much better."

F. S. Pearce in the MEDICAL NEWS, August 22, 1896, relates forty cases—thirty males and ten females—suffering from locomotor ataxia, sclerotic changes in the cord, neurasthenia, and the like, treated with from twenty to thirty minim average doses of Brown-Séquard's fluid. Improvement was noted in nervous diseases of a chronic nature and consisted in a general stimulation as well as an increase in the sexual sense. Foster in the "Reference Book of Practical Therapeutics" says: "One case of locomotor ataxia treated by means of the orchitic fluid by Dr. Depoux of Paris and one by Dr. Gilbert of Havre certainly showed remarkable improvement, which was maintained when the report was made, nearly a year after the treatment had been discontinued. In none of the cases of locomotor ataxia treated by means of the orchitic fluid have the knee-jerks returned, so far as I have been able to learn." White and Wilcox, in the third edition of "Materia Medica," say under organic extracts that "favorable reports of the use of testicular juice in many hundred cases of organic nervous disorders have been placed on record."

As for the chemistry of spermin, Dr. Virgil Coblentz tells us in "The Newer Remedies" (1899) that it is "a base, belonging to the class of leucomaines, obtained from the seminal fluid of animals. Also found in various glands and organs of the human body. A readily soluble, crystalline substance, which is usually obtained in

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the form of the hydrochloride." He adds, in regard to the especial preparation employed by the writer, that it is "a solution of the hydrochloride of the base spermin, $C_8H_{14}N$, which occurs in the testicular fluid and the fluid of other glands, and is employed in all diseases caused by autointoxication, such as neurasthenia, tabes, etc. It exerts a powerful tonic and stimulating action upon the nervous system."

Regarding the physiologicochemical action of spermin little, or nothing, is positively known. A most attractive and certainly very logical and scientific theory in regard to an organic extract is the one advanced by Dr. Althaus in the *Lancet*, December, 1893, in reference to alphacerebrine, where he suggests, that its action upon the nervous system may be due, first, to the injection of a highly specialized pabulum of nervous matter; secondly, to the decomposition of the lecithin and protagon, which it contains, through the alkaline blood into choline, glycerophosphoric acid and stearic acid. Choline, by reason of its oxydizing action on the blood, acts as an antitoxin, while the value of glycerophosphoric acid as a nervine is well known. Professor Senator found also that "spermin reduces an abnormal, diminished alkalinity of the blood to its normal state," thus, as Poehl claims, "preserving the system from autointoxication and acting as one of the factors of natural immunity."

No matter *how* spermin acts, however, the main question to be considered is: Does it act? The answer to this must without doubt be in the affirmative, at least in the one case of tabes and one case of Parkinson's disease in which the writer has employed spermin hypodermatically in the form of Poehl's solution, and I shall cite the tabetic case in detail, so that no doubt can be had in regard to the diagnosis.

Case I.—Mr. X., aged forty years. History of specific urethritis and syphilis thirteen years ago, for which he was under the able treatment of one of our most eminent specialists for about three years. During that time inunctions and other mercurial treatment, as well as iodides, etc., were employed. A year ago the patient came under the writer's care, complaining of sacral and sciatic pains. Notwithstanding that these pains were not of the sharp, stabbing, shooting character usually described in locomotor ataxia, the patient was, on the strength of the history and in the absence of any other manifestations or signs, even after a most searching physical examination, put first on "mixed treatment," later on iodides alone, in doses increased to tolerance. No improvement taking place, the aforesaid specialist was again consulted, but, as he approved of the treatment, iodides were continued for over six months, when the patient went to the country for complete rest and absence of business cares. On returning to the city in September last the patient had a long tale of woe to relate. The sacrosciatic pains had improved somewhat during the preceding month, retardation in micturition, even at times retention, had taken place, and the greater part of the previous month had been spent in almost constant attention to the bladder. The rectum was also very sensitive with a constant feeling of distention and tenesmus. On examination the prostate was found considerably enlarged and the rectum, as well as the prostate, exquisitely tender. The urine showed bacteria and pus in abundance, and stained specimens (still in my collection) proved the presence of gonococci in the epithelial and pus cells. The urethra was so sensitive that the most gentle introduction of a No. 24 sound, although meeting no obstacle, was so painful that no more passing of sounds was considered advisable. Daily bladder-irrigations were given, at first with permanganate solution, later with boric acid, protargol and silver nitrate solutions. Urotropin in 7.5 grain doses was taken by mouth, b. i. d. Salol, hyoscyamus, alkaline diuretics, even methylene blue, as well as opium and other suppositories were resorted to. Notwithstanding, the urine gradually cleared up and sounds up to No. 32 were admitted, the difficulty in micturition still persisted, causing at times retention which necessitated midnight catheterizations, etc.

Although the diminished knee-jerk and other symptoms not for one moment allowed one to forget the possibility of tabes, operative interference was deemed advisable and a well-known, prominent surgeon performed external urethrotomy on October 25, 1899, which operation with its subsequent drainage and rest was considered as a possible cure. I regret to say that such did not prove the case, however, and although the vesical and urethral irritability disappeared, incontinence, especially nocturnal, set in. During the patient's convalescence from the operation the signs of tabes became gradually more pronounced, and the writer tabulated the following symptoms observed before consulting Dr. E. D. Fisher in conjunction with the surgeon in the case in the latter part of November. These symptoms are numbered in the order in which they appeared: (1) Sacral and sciatic pains. (2) Prostatic, rectal and bladder symptoms. (3) Decreased knee-jerk. (4) Strabismus. (5) Anesthesia and hyperesthesia in spots. (6) Argyll-Robertson pupils. (7) Slight Romberg symptom. (8) Ptosis of right eyelid with palsy of right internal rectus and some paralysis of the other ocular muscles of right side. (9) Inability to stand on one leg or walk a straight line with eyes closed. (10) Partial ataxia of hands and feet, as in touching things while eyes are closed. (11) Characteristic gait, weakness of legs and dizziness. Dr. Fisher examined the patient with great care and confirmed the diagnosis of locomotor ataxia.

The patient was again given inunctions of ung. hydrarg., and also increasing doses of iodide, together with Blaud's pills, arsenic, warm baths, rest in bed, etc. The nightly recurrence of incontinence, as well as frequent dribbling during the day, persisted, however, and caused the patient no end of discomfort. After various palliative measures had failed the writer decided, fin-

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ally, to see what effect spermin would have. All other medication was consequently discontinued and 1 c.c. of Poehl's spermin was administered daily by hypodermic injection from January 11-23, 1900. After six injections the incontinence, bladder and rectal pains had disappeared altogether, the general tone, well-being and cheer improved considerably, the sexual appetite, which had been absent for months, returned, and the patient claimed to walk much better than before treatment commenced. The patient and his family were well pleased with the result obtained, but, as the ptosis and ocular motor symptoms still persisted, it was considered advisable to continue the spermin until twelve injections had been given. The general condition of the patient improved still more, the unpleasant hyperesthesia disappeared almost entirely, micturition became almost normal, and even the gait and unsteadiness improved considerably.

Case II.—Mr. Z. has suffered from paralysis agitans since 1889. Before coming under the writer's daily observation, some eighteen months ago, the patient was for several years treated by two of our most noted neurologists. The name, nature and prognosis of the disease are also perfectly familiar to the patient and his family. The general condition is very fair, thanks to a most careful regimen and good nursing, etc., made possible by the patient's circumstances.

During one of the temporary "bad spells" eight ampulla, each of 1 c.c. spermin, were given hypodermatically in as many consecutive days with very good results. Spermin seemed in this case to have a decided soporific effect. The frequent insomnia, which in this patient in almost every instance seems to be caused by autointoxication from gastro-intestinal disturbances, is usually relieved by a single injection, and the stumbling gait, which is always worse when the patient is upset, is also most gratefully affected. The patient, who is an exceptionally intellectual, bright and logical man and a keen observer, claims a very invigorating effect and added comfort. He says that spermin seems to relax the spasticity, which gives him rest, even although the tremor is not much affected, and he asks also for an occasional injection, whenever his usual equilibrium is upset.

205 West 105th Street.

A NEW METHOD FOR RETROPERITONEAL DRAINAGE OF PYOSALPINX, WITH A REPORT OF FIVE CASES.[1]

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IN presenting the subject of operations for pelvic suppurations, I am aware that I touch a subject over which many of the ablest minds in gynecology have disagreed since the beginning of the art, and it is only the fact that they have disagreed that emboldens me to add my quota to the discussion.

I need scarcely dwell on the disastrous results that follow the induction of the premature menopause through castration, although it is a topic that does not receive the careful consideration that it should. So many women suffer more from the nervous effects following removal of ovaries than they did from the disease for which these organs were removed. Therefore, in my opinion, salpingo-oophorectomy for purulent collections should never be done until vaginal drainage has been tried. This applies equally to hysterectomy whether the abdominal or vaginal incision, now becoming so popular, is practised. Vaginal drainage, if properly done, is scarcely dangerous to life. Even its opponents admit that a permanent cure follows it in the majority of cases, and that when this does not occur the patient is left in a better condition for a radical operation than she was previously.

Therefore, it seems logical to me that all pelvic suppurations should be drained by vagina, and, only in the event of failing to produce a cure, should a more dangerous operation be considered.

J. Veit, of Leyden,[1] lays down as indications for vaginal incision of a pyosalpinx, a high temperature, particularly if the patient is much prostrated, even if only as a primary procedure, as the patient's condition is much improved thereby, and the contents of the tube rendered less virulent. Therefore, he continues, vaginal incision is a good, if not always radical, procedure. He mentions as the cause of failures that only one part of a pyosalpinx is drained, and that hence the other part may keep up the infection. It seems to me that this objection is done away with by using a T-tube of large size with the upper part of the T long enough to drain the entire sac and allow injected antiseptic solutions to reach every part of it, and by allowing the tube to remain until nearly all discharge has ceased. Infections, other than gonorrheal, will then rapidly be cured, and even the latter by somewhat more prolonged treatment. Personally I have not had any recurrences in my own cases that I know of, or in those of other operators whose work I have observed, but I have seen in one case a fistula left that obstinately resisted treatment. As a rule, after vaginal incision of a pyosalpinx, the temperature promptly drops to normal, pain ceases, and there is no shock. In a week or less the patient is up and in from three to six weeks she is well.

Now let us look for a moment at the results of a laparotomy for pyosalpinx. There is often severe shock, and considerable pain lasting for long periods; the patient must remain in bed at least a month and it will, in many cases, take a year before she is really well and strong again. Frequently painful exudates form around the stump, which sometimes suppurate. There is considerable chance that later a ventral hernia will form, not to mention the fact that even in the hands of

[1] Read before the New York County Medical Association.

[1] Handbuch der Gynecologie, Vol. III., p. 800.

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the best operators salpingo-oophorectomy for pyosalpinx entails a considerable mortality. It seems to me that the two pictures speak for themselves. Occasionally a case will not get well from vaginal incision alone, but are not our clinics and consulting-rooms full of patients who did not get well after laparotomy?

It seems to me irrational to ligate and excise a tube when the part left may contain virulent bacilli, which have now fine culture media in the shape of raw surfaces and serum, and no place to drain except into the peritoneal cavity. If the stump does contain virulent bacteria, the patient is not cured, and she may be worse off than she was before operation, as I have frequently seen to be the case.

Howard A. Kelly and others advocate puncturing purulent pelvic collections with a pair of sharp-pointed scissors, which are withdrawn open, and packing the cavity with iodoform-gauze. This technic is a faulty one, in my opinion, as I have seen hemorrhages follow the use of a sharp instrument in this way; in addition there is no guarantee in many cases that a loop of intestine will not be perforated. Gauze-packing is not only painful for the patient, but on account of the remarkable tendency the vaginal incision has to heal, the packing is compressed and therefore does not drain the cavity properly. Dr. Kelly reports excellent results, so far as cure and mortality are concerned; he states, however, that he has opened the free peritoneal cavity nine times in sixty-five vaginal incisions.

Now, as approximately one-half of all pyosalpinxes removed by operation contain virulent bacilli, it seems to the writer that the technic should be improved so as to obviate the dangers of contaminating the peritoneal cavity with septic material. Dr. Kelly, speaking of purulent pelvic collections not in contact with the vagina, advocates performing a laparotomy and pushing the pus-sac or sacs down into Douglas' cul-de-sac where they may be reached by vaginal puncture.

Landau[1] advocates vaginal incision of pyosalpinx if ever so small a portion of the sac is unmistakably in contact with the vagina. If after the incision, which he makes with a scalpel, he is in doubt whether the free peritoneal cavity has been opened, he unites the edge of the opened sac to the vagina by means of a number of hemostatic forceps, which he allows to remain *in situ* about forty-eight hours. He lost two cases from septic peritonitis in three hundred vaginal incisions. In the technic which I propose the peritoneal cavity is not opened, even if the pyosalpinx is at considerable distance from the vagina. This would make a preliminary laparotomy unnecessary in the class of cases referred to by Dr. Kelly, and would obviate the risk of contaminating the peritoneal cavity in the cases in which any doubt exists as to the sac being in contact with the vagina.

The technic for vaginal incision of pyosalpinx advocated by J. Veit is to make an incision over the most prominent part of the swelling, extending through the vaginal wall, and then dissecting bluntly with the forefinger toward the center of the mass until the hard resistance of the tubal wall is encountered, and then to perforate it with a trocar or pair of scissors, then inserting a drainage-tube through the opening. This, as far as I know, is the usual method employed, although several, not very important, modifications are in use.

The method answers very well if the sac is in contact with the vagina, or if enough exudate or adhesions exist to wall off the tube from the free peritoneal cavity; but in many cases, of which the five I have chosen are examples, this is not the case. Thus, if this method be followed in these cases the free peritoneal cavity is traversed and death may follow from septic peritonitis, if the germs in the pus are virulent. As a matter of fact, I have seen this occur several times, therefore I was led to think of some way of opening the tubes without entering the peritoneal cavity. The fact that the uterus is partly covered with peritoneum, and that the broad ligaments are composed of two layers which can be separated, gives us the possibility of draining pyosalpinx retroperitoneally, and all other purulent collections in the pelvis without entering the free peritoneal cavity. Of course, in the latter case the peritoneum must be perforated, unless the pus lies between the layers of the broad ligament, but this is an anatomical fact although not of clinical importance. Therefore, the technic here described need be only slightly modified if we have to deal with an ovarian abscess or localized purulent peritonitis.

The operation which I have performed in the following cases is done in this manner. An incision is made at the uterovaginal junction, beginning just behind a transverse line drawn through the cervix on the side corresponding to the pyosalpinx and carried backward, following the contour of the cervix for three-quarters of an inch. This incision is made close to the uterus and extends through the thickness of the vaginal wall. In making this incision the uterus is pulled down and the vagina made tense with bullet forceps. The left forefinger is now introduced through the incision, if the inflammation is on the right side, or the right forefinger if it is on the left. The forefinger is gradually pushed higher, keeping close to the side of the uterus, thus separating it from the cellular tissue. Next the junction of the posterior cul-de-sac and the uterus, close to the broad ligament, is reached; from now on it is important to use care in manipulating so as not to tear the peritoneum. It usually strips off readily from the uterus, but when the inflammation is of long standing this is not always the case. We continue stripping off the peritoneum until we reach the origin of the Fallopian tube. The upper portion of this opening should be between the uterus and the folds of the broad ligament and the space should be large enough to admit the index-finger

[1] Ueber Tubensache, Archiv für Gyn., Bd. XL., p. 85.

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with some room to spare. The tube should be opened at this point if it is a prominent part of the sac. If, as is usually the case, the greatest bulge is more external, the finger separates the layers of the broad ligament until the most prominent point is reached. A pair of blunt forceps, curved on the flat, is now introduced with the other hand, and, while an assistant presses on the pyosalpinx from above, is pushed into the lumen of the tube under guidance of the index finger and opened, thus allowing the pus to escape.

This part of the operation must be done with great care and exactitude, so as not to open the free peritoneal cavity or perforate the pyosalpinx. The finger is now introduced through the opening in the sac and a thorough exploration made in order to be sure that no compartments are left undrained and that no ovarian abscess exists. Should the latter be present, the layers of the broad ligament should be still further separated and the abscess punctured. Having opened the tube and found no complication a rubber T-drainage tube of large size and good quality is introduced with a pair of forceps and allowed to remain.

The abscess is not irrigated at the time of operation lest a minute opening into the free peritoneal cavity might exist, and thus infectious matter be introduced into the peritoneal cavity. The vagina is now loosely packed and the tube cut short at the vulva. As a preliminary step all cases should be curetted. This insures a healthy endometrium.

Case I.—Mrs. C. had large pyosalpinx of left side, not in contact with the vagina. It was probably of gonorrheal origin as her husband had had a specific urethritis three years previously and her complaints began shortly after this date. She was operated on by the above-described retroperitoneal method and about ten ounces of pus were evacuated. The tube was removed in six weeks. She has remained perfectly well since her operation one year ago.

Case II.—Following a miscarriage the patient developed a left pyosalpinx not in contact with the vagina; she was operated on as above described. The tube was allowed to remain three and one-half weeks. She has had no trouble since.

Case III.—After dilatation of the os one year before operation, by another physician, patient has had trouble on the left side. When I saw her, three months ago, she had a large pyosalpinx of the left side not in contact with the vagina. Operation as above described. Tube was allowed to remain in four weeks. The patient has been perfectly well since.

Case IV.—The patient was sick one and a half years with a left pyosalpinx, probably of gonorrheal origin. She was operated on in July, 1899, and had no trouble until two weeks ago, since which time she complains of slight pains in the left pelvic region.[1] Vaginal examination did not reveal any abnormality, except some restriction of the mobility of the uterus, and some scar tissue at the site of the operation.

[1] These pains have since disappeared.

Case V.—Patient, thirty years of age, had pain in the pelvis for the past year and at times chills and fever. At long intervals pus was discharged through uterus. For several months she had almost constantly flowed, which together with a temperature, at times of 103° F., had necessitated her confinement in bed. She was very much exsanguinated and weak. Vaginal examination revealed a mass in the right broad ligament the size of a small fist and of stony hardness. High up in the pelvis on the left side a pyosalpinx could be felt. The uterus was absolutely immovable and somewhat enlarged. This case presented considerable difficulty. First, an incision through the vagina over the bulging mass to the right of the uterus was made and a blunt pair of forceps pushed into it and withdrawn open. The left pyosalpinx was drained retroperitoneally as described, but with considerable difficulty on account of the immobility of the uterus and the high position in the pelvis that the sac occupied. T tubes were inserted in both cavities and removed in four and five weeks respectively. The patient has been perfectly well since.

The last patient was in easy circumstances and had a trained nurse and every attention; the others were operated on in tenement-houses, and received only unskilled nursing. I do not regard it as necessary or even preferable to operate on these cases in a hospital, as the disinfection of the patients and hands of the operator and assistants and the boiling of instruments can be done equally well anywhere. Dressings, towels, sponges, etc., may be brought in a portable sterilizer.

To recapitulate: Retroperitoneal drainage is a comparatively safe operation. It is usually not very difficult of performance. It is reasonably sure to cure permanently. It leaves the generative organs *in situ*. Therefore, I advocate vaginal incision and drainage in all pelvic suppurations in contact with the vagina, and retroperitoneal drainage in all pelvic suppurations not in contact with the vagina.

DISCUSSION.

Vaginal Route in Gynecology.—In the discussion Dr. J. Riddle Goffe said that he has been for a long time a persistent advocate of the vaginal route in the surgical treatment of pelvic diseases in women. No man is justified in his opinion in doing a laparotomy for any pelvic disease, no matter what it may be, if the affection does not extend above the brim of the pelvis, unless he has first tried what can be accomplished by the vaginal route. Dr. Garrigues' method is new. It seems ideal, however, rather than practical. It would certainly not be easy to do all the manipulation suggested by Dr. Garrigues without opening up the peritoneal cavity rather freely. A serious objection to Dr. Garrigues' method seems to be that, in the layers of the broad liga-

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ment which he proposes to open up so freely, there is an important layer of cellular tissue containing a large number of important lymphatics. The pus from pyosalpinx and from abscesses of the ovaries may not be, and often is not, very virulent, but, on the other hand, it often is of extreme virulence. To allow this to drain over the large lymphatic spaces that would be opened up in the layers of the broad ligament, would be to invite danger not only of further spread of the disease locally, but even a certain danger of constitutional infection. The effort to save the peritoneum may result, then, in a general septicemia. In addition to this the operation suggested is too temporizing. The pelvic tissues are not exposed to view and the true character of the pathologic condition that exists is not definitely ascertained. Not more than one operation should be necessary for any case of pelvic disease, unless the patient is in extremis. It would seem preferable to open up Douglas' pouch freely, explore the conditions that exist thoroughly, and then do whatever is necessary to cure the patient, using the anterior vaginal incision through which to complete the operation.

The Anterior Operation.—Through an incision carried between the uterus and the bladder, the uterus and its adnexa may be turned down into the vagina and thoroughly examined. In order to deliver these organs it may be necessary to rupture abscesses. For this a large pad may be packed in and the peritoneum thoroughly protected. When the uterus and its adnexa are directly in view, conservative surgery of the highest order can be done without risk to the patient. This is the day of conservatism in gynecology. To leave even a small part of one ovary means that a woman will not suffer from the nerve-storms which characterize precocious menopause. In a number of cases recently in which only a minimal portion of one ovary could be left, menstruation continued uninterrupted and regular and no nervous symptoms developed.

Posterior Vaginal Operation.—Dr. Janvrin said that as Dr. Garrigues' procedure was new to him, he could say nothing definite about its possible advantages or disadvantages. The posterior vaginal route is his favorite operation and does not, to his mind, involve much danger. Free drainage by means of gauze or a good-sized drainage-tube will always relieve the peritoneum from any danger that it may be in because of the presence of infective agents in the pelvic suppurative processes. Dr. Goffe's objection to the danger of infecting the lymphatics of the broad ligament, if that structure is to be opened up, seems to be well taken. There is fully as much danger in this route as in the ordinary posterior vaginal route. As to the anterior operation, there is no doubt that in skilled hands it can be a very thorough and successful operation. The tissues may be thoroughly examined and the operation planned so as to remove whatever is considered to be diseased, saving all other tissue.

Dr. Boldt said that he does not think it possible to open a pyosalpinx high up by the method described by Dr. Garrigues. A suppurative process in the pelvis does not mean one abscess-cavity, but usually several. Purulent collections are sacculated and it is not sufficient to drain one of the sacs; all of them must be thoroughly emptied or the operation will have to be repeated. It is not as easy as it might seem to be, from the description given by the reader of the paper, to find the small Fallopian tube, and, when found, it is not always easy to open it, as its walls may be thickened and may be closely adherent to surrounding structures. Douglas' cul-de-sac should be widely opened. Often it will be advisable to make an opening large enough to admit the whole hand. It must be remembered that not all purulent processes are pus-tubes. There may be other pus collections in the pelvis and they should be carefully looked for.

Dr. Garrigues, in closing the discussion, said that the objection that his operation would open up the lymphatics between the layers of the broad ligament is well taken, but only theoretically. As a matter of fact, adhesions always form where the pus has collected for some time and the exudation has shut up the lymphatics so that they no longer absorb normally. In all of the cases operated on by this method, the temperature dropped promptly to normal, on the second to the fourth day after operation, and there were no further symptoms of the presence of pelvic suppuration. The patients were able to get up and be about in a week.

INAUGURAL ADDRESS.

BY EDWARD D. FISHER, M.D.,
OF NEW YORK:
PRESIDENT OF THE AMERICAN NEUROLOGICAL ASSOCIATION.

GENTLEMEN:—Before bringing to your attention the principal subject of my remarks, as I open another annual meeting of our Association, I would take the opportunity to express my appreciation of the honor conferred on me by my election as President of the American Neurological Association, and especially at this time, when the Congress of American Physicians and Surgeons holds its triennial at Washington.

The position of neurology among the divisions of medicine and surgery has changed very much in the last twenty or twenty-five years. Perhaps no special branch of medicine comes into quite so close touch with general medicine and medical surgery as neurology. The work which has been done by many in our field in this country, those living and dead, has also established neurology on as high a level of honor and respect as any of the departments of medicine. This was not always so, as in our special field there has ever been an opportunity for the charlatan to exercise his talents.

The great progress in our knowledge of the anatomy and pathology of the nervous system, the acquirement of which knowledge calls upon

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the highest kind of intellectual study, has had much to do with this.

In the old world, owing largely to the clinics held at the medical colleges, the reputation of the various teachers became world-wide. It is, however, only within the past quarter of a century, if so long, that the medical colleges with us have recognized the paramount necessity of a full and thorough course in psychiatry and neurology. This implies at present that in every well-organized college a previous thorough training in the minute anatomy of the nervous system has become necessary. Without this latter no proper instruction can be given in disease of the nervous sysem.

A very important point for us to consider, if we wish this high standing in the community to be maintained, is that we must not separate ourselves from general medicine. We must also study general disease. Other specialties may remain narrow and limited, but it should not be so with ours.

We are more often than others called as a sort of last resort to cases after many opinions have been expressed. Our diagnosis must be one often by exclusion. We must, therefore, be able to recognize, and, indeed, must fully understand, general diseases. We should be as able to examine the heart and lungs and other internal organs, and to recognize disease in them, as we are to make out disease of any special character in the nervous system itself. Again, a reason which also applies here is that these diseases of the general system may influence or cause the affections of the nervous system. A special illustration of this is seen in syphilis, which has such well-defined effects upon the nervous system. Some of the greatest names in neurology in Europe have always been connected with general medicine. I do not think it advisable to continue in general practice, at least to take care of any of the acute diseases, although some of the chronic diseases may often come under our care.

Another subject of importance for us to consider is that of therapeutics. We are too often, perhaps justly, accused of being more interested in the diagnosis and localization of a disease, and in the findings at autopsy, than in its cure. In calling us as consultants, however, the physician and patient are looking not only for a diagnosis from us, but also for some suggestion in regard to treatment. One of our most celebrated neurologists, Dr. S. Weir Mitchell, by his practical carrying out of a scheme or plan of treatment for nervous disorders which will always connect his name with the rest cure, has done much for the treatment of disease and also has spread the name of American neurology the world over.

I do not underrate the importance and necessity of the continued study of the histology and pathology of the nervous system. Our real advance is mostly due to this study and all our treatment has depended on such knowledge.

The note of warning I would now sound, and especially to those about to enter this field of medicine, is to keep up as broad a knowledge of all medicine as possible. No one should enter neurology as a specialty without having first had an experience in general practice.

I believe, if I read the signs of the times aright, that is the tendency of the neurology of the future.

Now we will enter upon the work of the session. We have an unusually full and excellent number of papers. Our Association has been successful and fortunate in its additions to its membership. We have now some most excellent candidates awaiting admission. It will be necessary to increase our membership, and from the attainments of those now applying I think it would be doing the Association a distinct injury not to so enlarge it. To continue to do good work we must ever be taking new blood into our Association.

Again thanking you for the high honor conferred upon me I declare this session now open for scientific work.

CLINICAL MEMORANDUM.

THREE CASES OF SUBCUTANEOUS CAPILLARY HEMORRHAGES IN EPILEPSY.

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LECTURER ON CLINICAL NEUROLOGY AND ANATOMY OF THE NERVOUS SYSTEM IN THE COLLEGE OF PHYSICIANS AND SURGEONS; VISITING PHYSICIAN AND NEUROLOGIST TO THE CLEVELAND GENERAL HOSPITAL AND DISPENSARY.

THE occurrence of minute subcutaneous capillary hemorrhages during an attack of epilepsy has been recorded, but from the scant mention that literature makes of these occurrences the writer is convinced that the phenomenon must be extremely rare. The following cases are personal observations and are deemed worthy of record:

Case I.—F. L., aged forty-two years; bookbinder; married, and has one child, a boy fourteen years old, who also has developed epilepsy since his father began to have his attacks, one year ago. One year ago, in the middle of the night, his wife heard him making a peculiar noise and on going to his bed was unable to arouse him. She hurriedly dressed herself, but before she was ready to leave the house to call a physician he became conscious. There is no history of syphilis or hemophilia obtainable. He has been having these attacks of epilepsy about every two or three weeks, nearly all of them occurring in the night, the others occurring during preparation for bed, or just before rising in the morning. It was early noticed that after his epileptic attacks the chest, shoulders and neck were covered by red spots which upon examination were found to be minute subcutaneous capillary hemorrhages. The mild attacks were either unaccompanied by these hemorrhages or they were few in number, but a violent convulsion was invariably followed by these hemorrhages.

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The following case was seen in consultation with Dr. Hicken and gave the following history:

Case II.—M. R., aged twenty-five years, railway clerk, unmarried. A few days preceding my visit and while in the office of Dr. Howard Straight he fell in a violent epileptic paroxysm. It was noticed that along the margin of both upper and lower lids of either eye was a bright red subcutaneous hemorrhage. Also beneath the ocular conjunctiva were several small hemorrhages. This was the second attack of epilepsy that he was known to have had. The other one presented like hemorrhages about the eyes and in the conjunctiva. In October, 1899, he underwent a slight surgical operation under chloroform anesthesia and it was noticed after the operation that he had hemorrhagic ecchymoses of the lids and conjunctiva. It was quite likely that while under the anesthetic he suffered his first epileptic paroxysm. This case is probably an epilepsy due to beginning multiple sclerosis.

The following case was seen in consultation with the late Dr. W. J. Scott and by him refered to me for treatment:

Case III.—S. E., aged thirty-four years; married; cigar-maker; no history of venereal disease or hemophilia. Has had epilepsy at wide intervals since fourteen years of age. He has had one interval of two years during which he had no attack. His seizures have always been of the major type and usually very violent. My first visit to him was the day succeeding a very violent attack. The upper part of the chest and contiguous areas of the neck were finely sprinkled with minute capilary hemorrhages, but never previously had his attention been called to them. I have observed him several times succeeding his attacks since that time and have invariably found a like condition to exist. There is nothing to indicate that he has any cardiac, vascular or blood disease that would especially conduce to the occurrence of these hemorrhages.

741 Prospect Street.

MEDICAL PROGRESS.

Intubation and Antitoxin.—It is now recognized throughout the world that intubation and antitoxin are the best methods of treating laryngeal diphtheria. Statistics of intubation without antitoxin show a mortality of 70 per cent.; with antitoxin, 30 per cent. The chief remedy advocated to diminish the mortality from this disease is the general adoption of a prophylactic dose of antitoxin to every child of croup-age, *viz.*, under ten years, exposed to diphtheria. The early use of a full dose is of greatest importance. B. R. Shurly (*Jour. Am. Med. Assoc.*, May 19, 1900) says that no case of laryngeal diphtheria should receive less than 1500 units and children over two years should have 2000 units, and an additional dose of 1000 units may be repeated every twelve hours according to symptoms. The more concentrated the serum, the more satisfactory for use. Additional medicinal treatment is of great value. The continuous inhalation of steam softens the laryngeal pseudomembrane. When the membranes are more adherent medicinal vapors from combined solutions of eucalyptus, oil of turpentine and carbolic acid are of value. Calomel vaporizations are of use in septic cases, as also are hourly doses of bichloride of mercury, gr. $^1/_{60}$ each. In considering the advisability of performing intubation, the following points are to be considered: (1) Stage of the disease. (2) Age of child. (3) Intelligence of parents. (4) Surroundings. (5) Trained nurse. (6) Amount of antitoxin and time when administered. (7) Distance of patient from operator. (8) Amount and character of dyspnea. (9) Complications. Urgent indications for operation are a small, frequent pulse, cyanosis, aphonia, and marked retraction of the chest-wall and epigastrium. In performing intubation particular attention should be paid to the position of the child and the selection of the tube. Ill-fitting tubes injure the larynx. No one should attempt the operation without having practised upon the cadaver, as an unskilful operator may endanger the child's life or injure the larynx and neighboring tissues. The removal of the tube is the most difficult part of the operation. This should be done, however, whenever the intubated child suffers from a recurrence of the dyspnea, as the tube may become occluded by food or membranes, or may be swallowed. The writer cites three cases illustrating some of the difficulties which the operator may meet. He also gives a summary of 100 cases operated upon, showing a mortality of 49 per cent. in children under three years of age, and of 19 per cent. in those over three years. He gives also the number of patients and the percentage of recoveries at each age. Shurly formulates the following conclusions and rules of procedure as applying to all cases of laryngeal diphtheria: (1) Administer antitoxin early without waiting for a bacteriologic diagnosis. (2) Tonsillar exudate attended by a croupy cough or partial aphonia is an indication for a full dose of 1500-2000 units of antitoxin. (3) Antitoxin administered twelve hours or more prior to operative interference will reduce the mortality of intubated cases at least 50 per cent. (4) Minimize all exposed children of croup-age. (5) Continuous steam inhalations are of great value in all cases. (6) Early operation is most strongly advocated.

Petrosulfol.—S. Ehrmann (*Wien. klin. Rundschau*, may 6, 1900) describes a new bituminous product resembling ichthyol and containing much sulphur called petrosulfol. This preparation may be used in ointment or watery solution. The class of cases best adapted for this remedy are the various eczemas, follicular, pustular, dry, and those with but slight exudation. The largely exudative type is not influenced by it. The eczema in which it has attained the very best results is that described by Unna as eczema keratoides. In

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sycosis, also, good results are reported. The combinations most in use for these conditions are:

℞ Petrosulfol 4.00
Ung. casein .....20.00—40.00

℞ Petrosulfol 6.00
Lanolin .....
Vaselin aa..... ....20.00
Zinci Oxid. Amyli, aa 10.00

This second combination forms a rather stiff paste which may be applied by means of a gauze dressing to the eczematous parts. Petrosulfol does not in any way injure the clothing of the patient and disappears from it after a few washings. It causes furthermore no exacerbation to the acute forms of skin-diseases and no inflammatory reactions occur. The author has frequently used it in severe forms of sycosis by means of cataphoresis with good effect. In order to test the efficacy of petrosulfol theoretically, Ehrmann mixed it with pure gelatin cultures of staphylococcus pyogenes albus and aureus. Those cultures with weak solutions of petrosulfol increased only slightly in mass while those that had been treated with ten-per-cent. petrosulfol ceased growing entirely. These experiments tempted Erhmann to use petrosulfol in cases of furunculosis in cataplasms of ten-per-cent. strength, with the result that the induration became less marked and the inflammatory process receded quickly. In pernio simplex the preparation was used with collodion. Also in erysipelas, petrosulfol mixed with a weakened solution of Liquor Burrowi, good results were obtained. In the blennorrheic diseases petrosulfol has proven invaluable. After incision, periurethral abscesses dressed with it have healed completely within a short time. In suppositories this preparation was effective against blennorrheic prostatitis. Finally it may be said that untoward results following the use of petrosulfol have never been witnessed, no idiosyncrasy as yet having been found.

Malaria.—For the diagnosis of malarial fever, says A. Woldert (*Medicine,* May, 1900), a fresh specimen of blood is to be preferred. This is obtained by holding a cover-slip against the drop of blood without touching the skin, and then letting the cover-glass fall by its own weight upon a slide. If the blood does not spread quickly, or if it forms rouleaux, discard the specimen. The plasmodium has a turning, twisting, rotary, or flattening-out movement, and in the later stages contains fine pigment granules in active motion. The movements of the organism cease as the blood becomes cold. The tertian parasite is at first about one-fifteenth the size of a red blood-cell, is hyaline and devoid of pigment. It moves and is continually changing its contour, and it soon accumulates reddish or brownish pigment. An hour or two before the paroxysm it occupies the entire body of the red cell; then the pigment collects near the center, and at the time of the chill the organism splits into fifteen or twenty segments. Flagellated bodies are often seen. It is not until several hours after a paroxysm that the leucocytes contain pigment. The quartan parasite is slower in its movements, its pigment-granules are coarse and dark and collect near the periphery in a star-shaped manner, and it splits up into six or eight hyaline bodies. The estivo-autumnal parasite cannot be differentiated from the others in the early stages, but later it may enclose the red cell so that it looks like a ring, or may form a crescent with rounded ends and containing pigment; these latter, however, are seen only after the fever has persisted for several days. For staining the blood, make an even spread by drawing the edge of a slide bearing the drop of blood along the surface of another slide, dry in air, and fix by immersing in alcohol and ether for some minutes, or by exposing to a heat of 115°-120° C. for thirty minutes. Then apply one-half-per-cent. eosin solution in fifty-per-cent. alcohol for three to five minutes, wash in water and counterstain with saturated aqueous solution of methylene blue for five minutes.

Pathological Anatomy of Cancer of the Stomach.—According to B. Cuneo (*Revue de Chirurgie,* April 10, 1900) the local extension of gastric, especially of pyloric, cancer presents three very practically important features: The early and wide invasion of the submucosa; the tendency of the growth to travel toward the lesser curvature; and the usual integrity of the duodenum. The invasion of the submucosa follows that of the mucosa in a short time and rapidly exceeds its limits, owing to the loose structure and abundance of lymphatics in this layer. Indeed, often there are found aberrant extensions which are accounted for only by the early involvement of lymphatics just beyond the outlines of the proper neoplasm and an infection from these by contiguity of their submucous bed. The progression of the cancers of the pyloris toward the lesser curvature is remarkably frequent, having occurred in 9 of the 11 autopsies and in a preponderating majority of operative cases noted by the author. Its gross features, always substantiated by histological examination, are a white, pearly plaque, with hard round projections appearing to spring from the gastric wall. From this zone emerge cancerous prolongations downward over the gastric wall or upward into the lesser omentum, which is transformed into a sclerolipomatous mass, containing the blood-vessels and lymphatics. The anatomopathological researches demonstrate the confluence of the gastric lymphatic system along the lesser curvature and the violent and vast involvement of both trunks and nodes in the cancerous attack. Where the coronary blood-vessels leave the stomach the lymphatics usually do also, which accounts for a temporary arrest of the secondary deposits at this point and indicates the site for the incision in partial gastrectomies, namely, as

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near the cardiac end as possible so as to remove the whole lesser curvature. While the duodenum so frequently remains intact as to make its entire escape the rule, nevertheless aberrant lymphatic deposits among the glands of Brunner and extensions by contiguity appear often enough to make resection of the duodenum for at least 2 or 3 cm. advisable. The study of the gastric lymphatic system leads to the recognition of three distinct groups, each with its definite clinical importance. First comes the coronary chain, comprising one group situate in the gastropancreatic peritoneal fold, and a second set along the lesser curvature proper, having a few scattered aberrant nodes about the cardiac end. Second is the hepatic chain which is of importance because to it belongs the right gastro-epiplotic series, consisting of a retropyloric and infrapyloric aggregation. Third, we have the splenic system, usually entirely discrete from that of the stomach. Since any or all of these, anatomically a part of the gastric system, may be early and severely infected, the indication is total ablation, because as soon as the first series of glands is degenerated general lymphatic involvement is assured and radical operation contraindicated. The removal of the lesser curvature with the entire coronary lymphatics appeared to be facilitated in the cadaver by the preliminary ligature of the coronary pedicle. The infrapyloric deposits are often so small as to escape attention. Therefore, the greater omentum must be divided widely and freely from the greater curvature, so as to include both the lymph-vessels and glands. In isolated cases these glands are anatomically incorporated in or adherent by inflammatory or cancerous deposits to the transverse mesocolon. Their removal, then, is exceedingly hazardous and often necessitates a resection of the colon. The extirpation of the retropyloric glands is always difficult because they are closely opposed to, and resemble the color and consistency of, the pancreas. They are also distributed along the gastroduodenal artery, from which severe hemorrhage may occur, so that its preliminary ligation at its origin may be an advisable procedure.

Treatment of Diabetes Mellitus.—It is a well-known fact that in spite of the many so-called specifics for the treatment of diabetes, there is still very little definite information in regard to the etiology of the disease, and no drug has yet satisfactorily relieved the condition unless combined with other methods of treatment, especially the dietetic. F. Kraus of Carlsbad (*Med. Rec.*, May 12, 1900) expresses the opinion that drugs have proven of little avail, opium being an exception but must be reserved for the very serious cases only. Hydrargyrum preparations seem to be of some value in rare cases of syphilitic glycosuria. The dietetic treatment, therefore, is the most efficacious and is sometimes curative, having for its object not simply to reduce the glycosuria but to keep the patient in the best form of nutrition. The best way of finding out the proper diet in individual cases is the following: The patient is put for one day on a limited amount of carbohydrates, say 100 grams of bread which contain about 60 grams of carbohydrates. Indifferent albuminous and fat products are also allowed. A twenty-four hours' specimen of urine is taken and the amount of sugar determined. If the glycosuria has not entirely disappeared, as in the mild cases, the carbohydrates are gradually increased until a trace of sugar is found and then we know what amount of carbohydrates the organism is able to assimilate, *i. e.*, "its tolerance for carbohydrates." This is the method used by v. Noorden in his clinic for diabetics. In cases in which the glycosuria persists a gradual reduction of carbohydrates is made until a diet as free from carbohydrates as possible is obtained. Great care must be observed in giving such strict diet and it can usually be followed only for a few days at a time. It must be interrupted if the patient is rapidly losing weight. In severe cases albuminous foods should be restricted as much as practicable, fats being substituted with vegetables containing very small percentages of carbohydrates. Periods of abstinence increase the assimilating force of the organism, and the continued use of carbohydrates diminishes the same. Therefore the patient should be told to include from time to time, at regular intervals, three or four days of strict diet, the intervals being chosen according to the severity of the case. Where glycosuria cannot be suppressed small amounts of carbohydrates should be allowed for albuminous material and fat alone will not meet the demands of the system for any length of time. Furthermore, it is superfluous cruelty to give some serious cases any sort of antidiabetic diet. It is always advisable to add the carbohydrates to the more copious meals, as dinner and supper, and the best way to give them is the form in which they have been accustomed to take them. The patient will usually prefer a small piece of plain bread to a larger piece of a surrogate. Alcohol may be used moderately and with careful selection. Balneotherapy has certainly been of considerable value in many cases and the effect is probably founded on the combination of many circumstances.

Mammary Cysts.—T. Bryant (*Lancet*, April 28, 1900), after analyzing some 230 cases of breast-tumor in his private records, announces these deductions: Simple mammary cysts are far more common than is generally believed; they are chiefly found in women at the same period of life as that in which cancer is found; they are mostly amenable to local treatment without sacrificing the gland; there is no reason to believe these women are more prone to cancer than others. With regard to the frequency of cyst-disease he states that out of every four cases more or less simulating cancer, one will prove to be a case of cyst-disease. By a free incision through the soft tissues the cyst may be emptied and dissected out. Where the cyst-wall is absolutely

free from anything like papillary or other growths it is sufficient to swab it out with carbolic acid or other caustic. When any growth, no matter how small, is found in the cyst-wall, excision is absolutely indicated, and when any intracystic growth is of a suspicious, fleshy, non-papillary nature, it is best to remove the entire gland. Of 68 cases treated by such conservative methods, every one has been permanently successful. Often serous occlusion-cysts, the size of a walnut, will disappear on improving the patient's general condition. In certain cases where the breast contains one cyst calling for interference, and also multiple small cysts, it is unnecessary as a rule to remove the entire gland, for with the removal of the large cyst the gland usually tends to return to its normal condition. Where the diagnosis is uncertain, as it must be many times, prompt exploratory incision is indicated.

Pelvic Peritonitis.—L. v. Luigen (*Med-Chir. Centralbl.,* April 6, 1900) recommends expectant treatment as far as possible in all cases of purulent pelvic peritonitis originating in the internal organs of generation. When such means have failed to restrict the progress or cure the condition and operative interference becomes necessary, he recommends in all cases vaginal drainage, irrigation and tamponade of the abscess. By digital palpation through the wound at the time of operation, the site, extent and complications of the disease can generally be determined and often drainage made more adequate than it would otherwise be. After the discharge is absent or at a minimum resort is then had to the usual local and systemic means to promote absorption of the exudate. Twenty-six cases are cited, showing how well this management results and how exceptional is the necessity of laparotomy for the disease. The one objection to it is that it takes longer to cure a patient by these means than by a laparotomy.

Plastic Covering of Defects in the Trachea.—H. Ane (*Arch. f. kl. Chr.,* Bd. 2, p. 125) considers that defects of the trachea usually originate in tracheotomies in early childhood. Their plastic relief aids not only the comfort of the patient but the development of the larynx. The use of tubes for many years often throws the larynx sufficiently out of function to hinder its growth to a remarkable degree. Suggestions have within a few years been made to cover such defects with bone-flaps. At the Twenty-second Congress of German Surgeons in Berlin, Schimmelbusch presented a 13-year-old patient with laryngeal stenosis and a defect of the trachea, two inches long, secondary to a tracheotomy for diphtheria during his second year. A flap of skin and bone was taken from the sternum, turned upward so that the skin presented inward. The raw outer surface of this flap was covered by skin taken from the adjoining lateral regions of the neck. The result was good. Again, at the Twenty-sixth Congress of the same body, F. König brought forward a seven-year-old child whose condition had been absence of the lower part of the larynx, especially of the cricoid cartilage, and of the adjoining trachea down to the manubrium sterni. The interval was filled with granulation and scar-tissue which formed the bed of the tracheotomy tube. This cicatrix was dissected away and the substernal tracheal stump freed and sewed posteriorly and as much as possible to the base of the larynx. Success followed the third effort for strong opposition. Later the absence of the anterior tracheal wall was supplied in part by the method of Schimmelbusch as above. A rather large sinus persisted. In a year this was closed by a skin- and bone-flap from the clavicle by a similar procedure. After four weeks the bone sloughed out, but the periosteum later supplied enough bone for rigidity. After two months the cannula was removed totally. The patient's breathing was natural, but he could only speak in a whisper. On the same occasion the younger König reviewed five other cases of laryngeal and tracheal defect treated by flaps of skin, periosteum and cartilage from the larynx, or the same with bone from the sternum. The case of the author was more difficult because of decided non-development of the larynx with deformity. The history was as follows: At two and one-half years of age boiling water was inhaled from a kettle-spout about six o'clock in the evening. At four o'clock the next morning a tracheotomy was done. Three months later he was still absolutely aphonic. Up to his eleventh vear he wore the cannula without other attention. Physical examination on January 1, 1897, showed a strong fourteen-year-old boy, unable to breathe except with the tube. A scar extended from the presternal notch to the upper border of the thyroid cartilage with the tube-hole at the center. The hyoid bone was under size. The larynx small, in about the stage of development reached at the sixth year. The thyroid cartilage was deformed, probably by division at the original operation. The left half was the larger and overlapped the right. The true cords were paretic, inflamed, closely applied to, and hardly discernable from, the false, and separated slightly on phonation, which was hoarse and present only on respiration. The trachea was much stenosed, its rings were not distinguishable; its anterior wall was absent for about 5 rings, while posteriorly there was a mass of scar-tissue caused by the tube and involving most of the periphery. (This tumor promptly recurred after excision in May, 1894. Bougies were then tried. In April, 1895, excision was repeated and a transplantation of oval mucosa tried. In June, 1895, the same trial was repeated, while the cannula was omitted. In January, 1896, it had to be reinserted to avoid suffocation.) The rest of the physical condition of the patient was normal. The treatment was as follows: February, 1897, the scar-tissue causing stenosis of the trachea was removed and its site was covered by a lateral skin-flap, which united primarily. The greater difficulties of the laryngeal stenosis were overcome by the free use of

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Schrötter's bougies which were passed from February 26th to May 5th, until No. 9 was admitted. Partial function of the voice was restored by using a tube with an upper opening. The use of the voice became less and less painful. The tube also prevented stenosis below by the flaccidity of the new skin-flaps over the area of the old cicatrix. In November, 1897, attention was given to the plastic restoration. The stenosis of the larynx was still such that breathing was severely dyspneic whenever the trachea was closed. Hence for almost a year apparatus was worn by which the patient was gradually helped and finally totally compelled to breathe through the normal passages. In October, 1898, Skliffossowsky did the operation as follows: A skin-flap was freed in its left and lower aspects and a bone-flap one-half its dimensions chiseled from the manubrium sterni. The excess of skin was folded and sewn over the bone, so as totally to inclose the same. Primary union resulted. Later the right border of the flap was freed and the whole opposed to the already freshened edges of the tracheal defect. The union was again primary. After the permanency of the union was certain, the pedicle of the flap was divided and separated. The sternal site of the flap was covered by portions of skin from the adjoining region and by Thiersch grafts. The cosmetic effect was good, the breathing and speech were much improved, and the restoration of the trachea was permanent.

Remarks on Pessaries.—Johannovsky (*Med.-Chir. Centralbl.*, April 13, 1900) says that, although modern gynecology seeks to correct permanently uterine displacements by operation, much can be accomplished by the pessary under suitable precautions, the first of which is antisepsis. Pessaries once used should always be sterilized by prolonged boiling; if the finish is injured they should be reburnished. The instrument must be surgically clean when introduced. Although the vagina carries this foreign body really well, full antisepsis is observed only by douching with weak antiseptic solutions once or twice daily. Again every three or four months a change of pessary is absolutely imperative. Choice of pessary is a matter of experiment in each case, best approached by first taking rather a small than a large one, as the latter are more difficult to retain and frequently cause discomfort and damage. Contraindications to their use are inherent in infectious vaginitis, acute and subacute inflammation of the uterus and its appendages. Respect for the periods of a woman's physiological life must be had. Virgins should be subjected to them only in extreme need, and the pregnant solely for the first three or four months, unless a simple prolapse of the vaginal walls is under treatment. Such patients wear them to term. None should be used earlier than the third week of the puerperium. During the climacteric the number and length of time should be gradually decreased owing to the process of involution. Hard rubber is the best material. As to the type of pessary the recommendations are as follows: The Hodge is the best of all, especially for mobile, reducible retroflexions. The Thomas, as originally designed, for a reserve instrument, when the former fails, usually in cases of marked relaxation and thickening of the posterior vaginal wall and of small freely-movable virgin uteri. The Mayer ring fulfils an indication in cases of descent with old pelvic peritonitis when the other types cause pain. Soft rubber may be used in this kind when the hard cannot be borne. The sieve or cup-pessary of Schatz supplants the former only when the weight it carries is small, as when the involution of the climacteric is complete, and in old virgins with atrophic organs. If too heavy it causes pressure-necrosis and is dangerous. Other mechanical means of uterine support are declared dangerous, and the use of the occluding pessary of Mensinger, for the prevention of conception, is allowable only for highest professional reasons.

Methylene Blue in Inoperable Cancer.—The *Therapeutic Gazette* (April 15, 1900) contains the report of a case of inoperable vaginal cancer by H. R. Coston. The vaginal examination disclosed a roughened and infiltrated area about one inch within the vulvovaginal orifice, and this surface extended around the entire canal up to and including the cervix and os uteri. The surface was very fragile and as a result of the examination, bled profusely. The left broad ligament and the inguinal glands were both enlarged and thickened. Although the patient's appetite was fair and the kidneys acting well, she was markedly cachectic. Operative measures were clearly out of the question. Coston began with local applications of methylene blue in the hope of relieving the patient from her most grievous symptoms. He used for the purpose a three-per-cent. solution in equal parts of alcohol and water, applying it every second day over the entire diseased area. The hemorrhage began to decrease from the first and the infiltrated area began to grow softer while the tissues became less fragile, permitting an ocular view of the os. Besides, tonics and alteratives were administered. Two months later, the hemorrhage had almost entirely disappeared, and the ulcerated surface had cicatrized, except in the left fornix. Four months after, there was frequently an entire week that elapsed without any pain being felt by the patient, when there would be a slight hemorrhage. The thickening of the broad ligament is, of course, increasing. The patient has, however, gained a few pounds in weight since treatment was begun. Coston does not claim any specific curative property for methylene blue and the patient, he says, will soon die from systemic infection. However, there is no doubt but that this remedy diminished greatly the chief annoyances of the patient, namely, hemorrhage and ulceration.

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Phosphorus in Rickets.—An extensive literature is quoted by E. Kossowitz (*Therap. Monatshft.*, April, 1900) to support his view that with the introduction of phosphorus a new era in the treatment of rachitis has begun. Most authors are unanimous in the opinion that phosphorus aids the process of ossification, and that the convulsions, laryngospasm, insomnia and restlessness are better benefited by this than any other drug. The records of over a hundred thousand teach the author that phosphorus is the specific in rickets. He recommends it dissolved in cod-liver oil in which form it keeps well for months.

Clinical and Pathological Features of Ainhum.—A full and interesting account of this rare condition is given by J. Moreira (*Monatshft. f. prak. Dermatolog.*, April 15, 1900). Occurring most frequently on the Gold Coast of Africa and in Polynesia, it is found to a less extent in the larger cities of South America and the Southern States as well as in the West Indies. A shallow, circular constriction will first appear on the inner and under surfaces of the affected toe at the digitoplantar fold. As time progresses this groove will deepen until the toe remains connected with the foot by only a narrow pedicle. In the earlier stages neither pain nor inflammation is complained of, a slight pruritus and an increased mobility of the digit being the only subjective symptoms present. Later, however, the toe swells gradually and tenderness appears, and at the same time the edges of the sharply-cut furrow indurate and the base becomes ulcerous and covered with a fetid pus. Constitutional symptoms do not even now accompany this peculiar process and, other than the pain, the patients suffer but little inconvenience. Competent observers have classified ainhum as a manifestation of lepra mutilans, but the features of the two differ so much as to hardly demand serious controversy; for, while leprosy occurs among all races, shows no special predilection for the toes, and is an intractable, constitutional affection, ainhum involves only the fifth, more rarely the fourth, toe of negroes and can readily be cured if incipient by multiple incisions at right angles to the furrow. Then, also, gangrenous ulcers, pemphigus necrosis, atrophy and contractures, which are so often seen in leprosy, never occur. Pathologically a venous stasis, with subsequent edema and hypertrophy of the dermal layers, was found in the parts distal to the constriction; the latter itself showed a marked hypertrophy of the collagenous tissue of the skin. The author explains the occurrence of ainhum in negroes by their poor hygienic surroundings and the disposition to sclerosis inherent to this race, while the limitation of the disease to the two outer toes may be due to the greater obliquity of the fourth and fifth flexor tendons, owing to flatfoot. Trauma is an important etiological factor since those going barefooted are more often the sufferers. The disease runs a chronic course of from two to ten years, and has an excellent prognosis if early treated. Later, nothing but amputation will lead to cure.

Indications for Stimulation in Typhoid.—The four states to be combated by stimulants in typhoid fever are, according to J. H. Musser (*Therapeutic Gazette*, April 15, 1900), (1) toxemia; (2) exhaustion; (3) perforation, and (4) hemorrhage. Toxemia is recognized either by a state of ataxia or one of adynamia. In the former there are present excitement, erethism, active delirium, with cerebral congestion, flushed face, injected cornea, delusions, incoördination, twitchings, jactitations and restlessness. The pulse at first is full and strong. In this state cold applications are of the greatest use and alcoholic stimulation is to be avoided. The only drug of service here is opium. The coal-tar preparations are dangerous. Opium in small doses seems to have a stimulating effect and brings about relief in from twenty-four to forty-eight hours. Five or ten minims of the deodorized tincture every three or four hours has acted well. Adynamia is recognized by depression—exhaustion of the nervous, muscular and circulatory systems. This is the "typhoid state." Dulness, even stupor, low and muttering delirium, subsultus; apathy visible in the countenance; increased pulse, often dicrotic; diminished secretions, hot, dry skin, dry and brown tongue—all these are characteristic. Exhaustion is more profound each day. In this state stimulants are imperative, but should be used in small doses at long intervals. If the tongue becomes moist, the delirium lessens and a quiet sleep ensues after the alcohol. The kidneys also recover and the pulse slows and becomes stronger. Should the symptoms, however, become aggravated one must proceed very cautiously and employ stimulants other than alcoholic. The best guide as to the beneficent effects of stimulation is seen in the activity of the renal epithelium. If the urine keeps above fifty ounces per diem, plenty of water being used internally, no fear need arise. In old patients, with bad typhoid septicemia, champagne may be employed as well as spirits. Exhaustion is the result of the fever, the diarrhea, imperfect feeding, pathological discharges or abscess. Diarrhea must be controlled at almost any cost, for to this cause the greatest degree of weakness is due. Stimulation is here indicated in all quantities—from a few ounces of wine in twenty-four hours to many ounces of whiskey or pints of champagne. Perforation requires the same stimulation needed in surgical shock and it must be proceeded with gradually. In hemorrhage free stimulation is not "*en regle*," but gently and persistently adhered to, with opium, it gives good results. In convalescence, in order to overcome exhaustion and to aid digestion, stimulation must often be resorted to. This may vary from light wines or malt liquors to higher degrees of alcoholic beverages. Consideration must be had to the particular indications in each case.

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SATURDAY, MAY 26, 1900.

A NATIONAL THERAPEUTIC SOCIETY.

IT is too often thought that the dreamer is a deep man; that the seeker after theoretical explanations of involved phenomena, because of his apparent lack of interest in things that touch gold, is above the suspicion of worldliness and is a model to pattern after. And it is to be regretted that in the minds of the student there should exist a certain small-souled contempt for the worker whose sole aim is the direct alleviation of bodily distress.

The man who practises medicine as an art has little time for so-called scientific work, and the man who studies medicine as a science seldom practises. Thus, the two sides of medicine are as completely opposed to each other as the reverse and the obverse of a coin; but together they make the currency of progress. There are few successful physicians to-day who do not appreciate how great a debt is due to the laboratory-working members of the fraternity; few, indeed, who could not themselves work up with the keenest appreciation, pathologic and bacteriologic questions involved in their most obscure cases; but life is not long enough. While they are puttering away over badly-smelling specimens, the flame of life goes out.

It is to the every-day worker among the sick that the world must look for improved methods of treatment and it is a sign of distinct progress that an idea was put into tangible form at the last Congress, which should have matured long before. That there is place for a distinct society whose object shall be to exemplify the end and aim of practical medicine, namely Therapeutics, needs no thesis.

A National Therapeutic Society with a platform of the ways and means of *treating* disease was inaugurated at Washington and we look for a large and active membership in so eminently suitable a project.

THE NEURONE CONCEPT.

NERVE-CELLS and nerve-fibers were the terms employed in the description of the structural element of the nervous system up to within comparatively recent years, but, more particularly, Italian, Spanish and German workers, have brought into general line the structure of the nervous system and have extended the biologic cell doctrine to this involved maze of elements. Apart from the many collateral and intricate questions of detail the neurone doctrine simply posits the cellular character of the nerve-unit. In the recent discussion of the neurone doctrine, held before the American Neurological Association, L. F. Barker outlined very clearly the biologic import of the doctrine and showed that, notwithstanding the many irregularities in technic and the manifest differences of interpretation of such technical modes of investigation, the neurone doctrine is fundamental and has come to stay, for some time at least.

Whether, as claimed by recent observers, the neurones are in actual physical contiguity or not, is an irrelevant question, if the fundamental biologic idea is kept in mind. Some contact of the individual units must exist, physiologically at least, and the question of their communication by fibrils, as apparently demonstrated by Apathy, has little bearing on the general concept.

The pathological data were very ably presented by Dr. W. G. Spiller and seemed to demonstrate, notwithstanding many anomalies, the general truths of the doctrine.

As outlined by Dr. B. Sachs, the doctrine has not helped very materially in the treatment of nervous affections. This, however, is not the fault of the doctrine, nor does it militate in any

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way against its foundation in fact, but serves to bring out the extreme difficulties to be overcome in the treatment of so highly complex a tissue as that of the nervous system. The doctrine certainly may point out useful lines of treatment as its details are more thoroughly mastered.

RADICAL CURE OF INTESTINAL CANCER.

NEXT to the fact that cancer is on the increase, the most interesting advance in our knowledge of malignant disease from recent observations is that cancer of the intestine is occurring in younger subjects than it formerly did. Cancer specialists in such widely separated countries as France, Germany, England and America agree in this opinion. An offset to discouraging observation is the fact that operation for intestinal cancer is now neither so dangerous nor so hopeless as it once appeared to be. Excision of even considerable lengths of intestine has now been done so frequently and with such excellent results that this field of surgery is being exploited with comparative impunity. Confident skill in the technic of intestinal resection and anastomosis is expected, in our time, of every surgeon who seriously takes up abdominal surgery.

Undoubtedly the mortality from cancer of the intestines will be notably reduced as soon as the skill necessary for early and accurate diagnosis is developed among those who see such cases early in their career. The most characteristic symptom of growth of an intestinal neoplasm is the occurrence in patients with a history of chronic constipation, of attacks of acute abdominal distress that simulate more or less closely intestinal obstruction. In such cases careful abdominal palpation will often reveal the presence of a tumor. This is usually not large, but is apt to be very hard and somewhat nodular in character. The favorite locations are the flexures of the colon, especially the sigmoid, and the caput coli in the neighborhood of the ileocecal valve. Cancer of the rectum gives special characteristic symptoms that are not difficult of recognition while cancer of the duodenum can scarcely be differentiated with any accuracy from cancer of the pylorus.

The contraindications to operation for malignant disease of the intestine are few. The size of a tumor alone is never a contraindication unless there are other prohibitive reasons. The presence of adhesions is a contraindication only when they involve large blood-vessels or the bony skeleton or when they are due to cancerous infiltration. Inflammatory adhesions, due to the recurring attacks of localized peritonitis during the periods of incomplete intestinal obstruction, may bind down an intestinal tumor so firmly as to make it absolutely immovable, at least to external palpation, yet the adhesions may be readily broken up after laparotomy. Resections of such important organs as the liver and the pancreas may be successfully accomplished even where the infiltration is malignant in character, provided it is not too extensive.

While waiting for the solution of the problem of the etiology of cancer and of methods of treatment other than radical surgical intervention, the hope of reducing the mortality from malignant disease lies in early diagnosis of the presence of the cancerous tumor. In the breast and in the uterus there has been during late years a distinct advance in the line of early detection of the neoplasm. The diagnostic difficulties are greater in the case of cancer of the intestine, but the arrangement of the lymphatics of the gut is such that the extension of the cancerous process beyond its original ring of invasion is slow. The chances for radical cure are consequently greater at every corresponding stage of advancement. Many lives may be saved by keeping alive an active suspicion of anomalous symptoms of constipation in the middle-aged, and by insistence on careful examination of the abdomen when they exist.

ECHOES AND NEWS.

NEW YORK.

Hospital Benefactions.—By the will of Robert Schell the Presbyterian Hospital receives $20,000 and New York Eye and Ear Infirmary $5,000.

Death from Chloral.—Dr. Charles Smith Collins, living at 2183 Broadway, died May 20th from the effects of an overdose of chloral taken to relieve pain and induce sleep.

Addition to Eye and Ear Hospital.—A two-story addition is about to be erected in the rear of the present buildings by the New York Eye and Ear Hospital. The new structure will cost about $35,000.

Bellevue Appointment.—Dr. John B. Walker has been appointed Visiting Surgeon to Bellevue in the Third Division, College of Physicians and Surgeons.

The Polyclinic.—At a recent meeting of the Faculty Drs. Robert C. Myles and Francis J. Quinlan were appointed Professors in the Department of Laryngology and Rhinology.

New York County Medical Association.—The following officers have been nominated to be voted for at the next stated meeting: For president, Parker Syms and John Blake White; first vice-president, J. Riddle Goffe; second vice-president, Emil Mayer and Carl Beck; recording secretary, Ogden C. Ludlow; corresponding secretary, J. W. Draper Maury and R. Abrahams; treasurer, Charles E. Dennison and Charles I. Robyn; member of executive committee, Frederick Holme Wiggin.

Contagious Diseases.—For the week ending May 19, 1900: Measles, 618 cases, 23 deaths; diphtheria, 251 cases, 45 deaths; laryngeal diphtheria (croup), 13 cases, 9 deaths; scarlet fever, 154 cases, 16 deaths; smallpox, 2 cases, 1 death; chicken-pox, 12 cases; tuberculosis, 207 cases, 171 deaths; typhoid fever, 17 cases, 4 deaths; cerebrospinal meningitis, 4 deaths; totals, 1274 cases, 273 deaths.

Nurses for the Insane.—At the third annual graduation exercises of the Training School for Nurses, which is part of the Manhattan State Hospital on Ward's Island, forty-five nurses received diplomas. Most of these are women, and all of them intend to nurse the insane.

Testimonial to Dr. Jacobi.—The Woman's Health Protective Association, assembled at the Academy of Medicine on May 16th, adopted congratulatory resolutions and presented to Dr. Jacobi a testimonial, calling attention to his services in behalf of the Association. Dr. Jacobi, in reply, praised the Association for its achievements.

Christian Scientists and the Elephant.—There seems to be no limit to the ambition of the disciples of Eddyism. The latest stroke of advertising consists in making application to the Superintendent of the Central Park Zoo to treat "Old Tom," the elephant who has recently been indisposed. When told that they would not be safe for a moment in the cage with Old Tom they insisted that that made no difference, they could cure him at their homes, remarking that they often have patients as far away as China. Whether these patients are elephants appeareth not. As the elephant was already convalescent, we may hope soon to hear from the scientists that they have effected a complete cure.

Trinity Hospital Closed.—Trinity Hospital in Varick Street, which is controlled by Trinity Corporation, was closed May 15th for the first time since its foundation twenty-seven years ago. Extensive alterations in the building will be made during the summer. The hospital will reopen October 15th in charge of trained nurses instead of the Anglican Sisters of St. Mary, who have been in charge of it since its inception.

St. John's May Withdraw.—The authorities of St. John's Hospital, Brooklyn, are considering the advisability of taking that institution out of the list of city hospitals. It has been found that the money received from the City does not cover the expense of caring for the city inmates of the hospital, and it is believed that a saving can be made by conducting the hospital as a purely private institution. The parsimony of the City Government, which has cut down the pay for city patients to one-half what it costs the hospital, is condemned.

Brooklyn Doctors' New Home.—The new home of the Medical Society of the County of Kings, in Grant Square, Brooklyn, was dedicated on May 18th with appropriate ceremonies. Dr. Lewis S. Pilcher, President of the Society, presided, and the exercises included addresses by Dr. George M. Gould of Philadelphia, Dr. James H. Chadwick, Librarian of the Boston Medical Library, and Dr. Abraham Jacobi, Chairman of the Board of Trustees of the New York Academy of Medicine. The benediction with which the exercises closed was delivered by the Rev. John P. Chadwick, U. S. N., who was chaplain of the "Maine" and is now attached to the Brooklyn Navy Yard.

In Memory of Dr. Hammond.—The Post-Graduate Medical School held a Memorial Meeting on February 23d in honor of the late Surgeon-General William A. Hammond, who had been one of the founders of the school. The exercises furnished a monument more lasting than brass, and was a most appropriate tribute to the memory of the man. A full account of the exercises appears in the May issue of the *Post-Graduate*. Dr. Roosa recounted many interesting personal anecdotes and pictured the character of Dr. Hammond as a man; Dr. Joseph Collins spoke of Hammond, the physician and neurologist; Dr. Charles L. Dana of Hammond, the teacher; Dr. Joseph R. Smith, U. S. A., of Hammond, the Surgeon-General, and E. A. Lancaster of Hammond, the litterateur; Dr. Andrew H. Smith spoke of Hammond's professional career, and A. E. Lancaster presented a short poem. In thus honoring the memory of a colleague the Post-Graduate Medical School reflects credit upon itself, and we hope has established a precedent for similar institutions.

Hebrew Sanitarium Report.—In the twenty-second annual report of the Sanitarium for Hebrew Children, which has just been issued, it is stated that during the year 1899, 6090 day-patients were taken on excursions, 1546 were women and 4544 were children. Nine hundred and eighty-nine persons were admitted as weekly-patients to the institution at Rockaway Park. In addition to this number there were 8474 day-patients, of whom 474 were mothers. The receipts for the year were $44,830.63. The purpose of the institution is not to relieve want, but rather to build up the constitution of weak children, and to enable them to become healthy and self-supporting men and women.

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PHILADELPHIA.

Polyclinic Staff.—The Philadelphia Polyclinic and College for Graduates in Medicine has recently elected Dr. James Thorington Professor of Ophthalmology.

St. Timothy's Hospital.—The heirs of Percival Roberts have donated $50,000 for a memorial addition to this hospital. The new building will be 140 by 50 feet in size.

Hahnemann Commencement.—The fifty-second annual commencement of Hahnemann Medical College was held May 17th, 58 men receiving diplomas. The address was delivered by President Patton of Princeton University. He deprecates the present tendency to specialization in medicine.

Medico-Chirurgical Commencement.—The annual commencement of the Medico-Chirurgical College was held May 19th, the orator of the occasion being President G. E. Reed of Dickinson College. In the medical department 37 graduates received diplomas. In addition there were 22 graduates in dentistry and 16 in pharmacy.

Health Report.—Deaths for the week ending May 19th were 535, an increase of 41 over those of the previous week and of 152 over the corresponding week of last year. Contagious diseases: Diphtheria, 82 cases, 33 deaths; scarlet fever, 60 cases, 12 deaths; typhoid fever, 75 cases, 9 deaths.

Weltmerism.—This so-called method of healing by magnetic influence is the latest "ism" to seek the sanction of the law in Pennsylvania. One of its adherents considers that the law does not prohibit its practice because no drugs are used. The Medical Council is kept busy defining who may and who may not practise the art of healing. And still new methods multiply.

College of Physicians.—The Section on Laryngology and Otology met May 16th. Dr. W. S. Hoch presented a case of mycosis of the faucial and lingual tonsils. The disease was of three months duration, the patient being otherwise in good health. Dr. Donnellan stated that some cases had been greatly benefited by tobacco-smoking. Dr. C. H. Burnett reported a case of acute otitic facial paralysis. He favors giving a reasonable time for nature to take care of the sequestrum where there is reason to believe dead bone is present. This is preferable to early operation. Dr. Bliss reported a case of operation for nasopharyngeal adenoids and deflected septum in a hemophiliac. It is his rule to inquire carefully whether there is a tendency to bleeding before operation, but this had been overlooked in the case cited. Hemorrhage was readily controlled at the time of operating, but began the next morning and was so severe for two days that the patient died four days after the operation, although the hemorrhage seemed to be under control for the last two days. He believes that laryngological and aural operations should not be done in cases where the history points to hemophilia, unless in exceptional cases of great emergency. A point emphasized in the discussion was that the hemorrhage in such cases does not immediately follow the operation, but begins from a few to twenty-four hours afterward.

The Section on Gynecology.—At a meeting held on May 17th, Dr. Beyea reported a case of papillary cyst of both ovaries with a recurrence in the posterior wall of the vagina some time after removal. This growth was encapsulated and was enucleated. Transference was believed to have taken place by the lymph-channels, but as this would be contrary to the flow of the lymph-stream the exact manner was not understood. Dr. Dorland read a paper upon the rôle of the liver in the production of eclampsia. He believes that there are certain cases of hepatotoxicity. This affords an explanation of fulminant cases where there is no albumin in the urine. Acetone is probably one agent concerned in this toxemia and the urine should be constantly examined for this substance. Dr. Krusen stated that cases of eclampsia were lessened in proportion as more salines and calomel were used in the later stages of pregnancy. This would point to the liver as being of some influence in the causation of eclampsia. Dr. Coles believes that the kidneys are not at fault in some of the worst cases of eclampsia and thinks the liver plays a large part in the cause. In one case of toxemia the patient was on the verge of eclampsia and yet there were no urinary symptoms. He does not pay much attention to albumin as a diagnostic point and thinks that cases will be treated better if more attention is paid to the amount of urine and the total solids passed. The renal form of elampsia is of more favorable prognosis than is the form which appears to be a toxemia from the liver. Unless kidney-disease is very bad it is not looked upon as unfavorable. One case of acute Bright's disease had one eclamptic convulsion and finally recovered. Dr. Coles gives calomel to toxemic cases, one-fourth grain three times a day, this giving better results than diuretics. This amount has been given continuously during the last two months of pregnancy with positive beneficial results.

CHICAGO.

The New Willard Hospital.—The new Frances E. Willard National Temperance Hospital was recently opened. It affords accommodation for about thirty patients at present.

Preservatives for Milk.—Health Commissioner Reynolds has declared that the use of preservatives to keep milk from souring is a direct menace to infant-life of Chicago. Restaurant men and caterers have declared the present milk-supply unfit for animals. Active measures will be taken by the Health Department to put a stop to the practice, and the names of dealers who violate the mandate of Commissioner Reynolds will be made public. Some dealers have already come under the ban of the Department. The

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Commissioner has notified four firms manufacturing various preparations which they term preservatives, that such solutions are injurious and should not be sold. Offenders will be prosecuted under the City Ordinance which prohibits the adulteration of milk or the use of preservatives.

Officers of Illinois State Medical Society.—At the annual meeting, held May 15, 16 and 17, 1900, at Springfield, the following officers were elected for the ensuing year: President, Dr. George N. Kreider, Springfield; first vice-president, Dr. Weller Van Hook, Chicago; second vice-president, Dr. Denslow Lewis, Chicago; assistant secretary, Dr. O. B. Will, Peoria; treasurer, Dr. E. J. Brown, Decatur; permanent secretary, Dr. E. W. Weis, Ottawa. Section One—Chairman, Dr. Charles D. Center, Quincy; secretary, Dr. G. W. Nesbitt, Sycamore. Section Two—Chairman, Dr. M. L. Harris, Chicago; secretary, Dr. W. F. Grinstead, Cairo. Section Three—Chairman, Dr. Frank P. Norbury, Jacksonville; secretary, Dr. C. C. Carter, Rock Island. Peoria was selected as the place for holding the next annual meeting, May 21, 22, and 23, 1901. Chairman of the Committee of Arrangements, Dr. J. D. Henry, Peoria.

Public Health Matters.—There were 527 deaths reported during the week ended May 12th, an excess of 39 over the preceding week and of 24 over the corresponding period of 1899. The weekly bulletin of the Health Department shows that chronic diseases are chiefly responsible for the relatively high mortality, and of the acute diseases pneumonia is somewhat, and typhoid fever largely, in excess of the preceding week. Of the chronic diseases showing an increased mortality may be noted Bright's disease, heart-diseases, nervous diseases, cancer and consumption. There were 15 deaths from measles during the week, the greatest number reported for any week since the weekly mortality records have been kept. The great majority of these cases were complicated with pneumonia. The marked increase of typhoid-fever mortality should be a warning against the use of untreated hydrant-water by the young and non-immune. It is to be feared that the greatly improved appearance of the river since the opening of the Drainage Channel is misleading the public into the belief that our drinking-water is correspondingly improved, and that there is no longer any necessity for caution in its use. As much sewage is still poured into the lake as before the channel was opened; this will continue until the intercepting sewers are completed and the lake will be subject to occasional pollution, the effects of which will be shown in an increase of deaths from the acute intestinal diseases and from typhoid fever.

GENERAL.

To Study Yellow Fever.—It is reported that the Liverpool School of Tropical Disease is about to dispatch an expedition to South America for the purpose of investigating the cause of yellow fever.

The International Medical Congress.—It is officially announced that during the week of the International Medical Congress at Paris, August 2-9, free admission to the Exposition will be granted to members of the Congress. To secure this members will receive a special card by applying at the office of the Congress, 21 rue de l'École de Médicine.

American Proctologic Society.—The following officers were elected at the meeting of this Society held at Washington, May 5, 1900: President, J. P. Tuttle, New York; vice-president, T. C. Martin, Cleveland; secretary, W. H. Beach, Pittsburg; members of the executive council, S. T. Earle, Jr., Baltimore, A. B. Cooke, Nashville, and J. R. Pennington, Chicago.

Cholera Kills Thousands.—A special despatch from Hyderabad on May 18th stated that more than forty-five famine camps have been attacked by cholera. At Gujerat many thousands have perished. In the Godhra camp alone there have been thousands of victims.

Vaccination by Force.—The alarming spread of smallpox in the State of South Carolina induced the Governor recently to issue public notices to all magistrates instructing them that they must issue warrants on the affidavits of health officers, and have persons, charged with refusing vaccination, arrested. Acting on this, the magistrates of the village of Union arrested men and women and took them to jail, where they were forcibly vaccinated by order of the town board.

Long Skirts and Disease.—The opinion is gaining ground in the profession that the continued prevalence of grip is due very largely to the germs being carried into the houses by the trailing skirts of women. Already it has been recognized that the dried sputum of tuberculous patients is being carried into homes and disseminated in the same way. Reform in this matter must come from the intelligent classes in every community. A few women of recognized social position could easily set the stamp of fashion upon the hygienic short walking-skirt.

The American Medical Association.—The proximity of Atlantic City, the place of meeting this year of the American Medical Association, will enable the members to visit both New York and Philadelphia before or after the meeting and look into the various clinics, medical and surgical. At Philadelphia a bureau of information for the benefit of members of the Association has been established at the College of Physicians, on the corner of Thirteenth and Locust Streets. Full information will be furnished regarding the situation of the various hospitals, medical colleges, etc., and the hours and dates of operations and clinics.

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Barnard Medal for Roentgen.—The National

Academy of Sciences of the United States has recommended to the Trustees of Columbia University that the Barnard medal for meritorious service to science be awarded to Prof. Wilhelm Conrad Röntgen of the University of Würzburg for his discovery of the X-ray. The award will accordingly be made at the university commencement to be held on June 13th. This medal is awarded every quinquennial period "to such person, if any, whether a citizen of the United States or any other country, as shall within the five years next preceding have made such discovery in physical or astronomical science to purposes beneficial to the human race as in the judgment of the National Academy of Sciences of the United States shall be esteemed most worthy of such honor."

A Temperature of 119° F.—Dr. Frank Sampson of Penn Yan, N. Y., who is attending Lieut. Mary Gregory of the Salvation Army, reports continued high temperature in her case. She is twenty-four years of age, and has been suffering from appendicitis. On March 24th the temperature arose from 103° to 108° F. The next morning 112° F. was reached, the highest the doctor's instrument could record. A colleague was called in whose thermometer recorded the same degree. Four physicians and seven different thermometers were used and all recorded practically the same result. The degree of 112° F. was reached every day up to May 20th, fifty-five days in all, and a severe chill usually preceded the fever. The pulse was generally not over 120, and the tongue has been clean and the mind clear except when opiates were used. Once a thermometer registering 120° F. was employed, and with this Miss Gregory exhibited a temperature of 119° F.

The Plague.—Recent reports from San Francisco announce that an organization of Chinamen called "the highbinders" and the Board of Health have had a clash over the bubonic-plague question. By threats to assassinate any Chinaman who submits to inoculation against the plague, the former have prevented the Chinese from taking treatment. There are 23,000 Chinese in Chinatown, and they are terrorized at the prospect of vaccination with the Haffkine prophylactic. Surgeon-General Wyman of the Marine Hospital Service insists upon the absolute necessity of having every Chinese inoculated. Surgeon Kinyoun, who has charge of the Federal sanitary interests in the State of California, is working in harmony with the State and local boards of health. To prevent the departure of Asiatics by means of the railroads crossing the State line, sanitary inspectors have been stationed at various points on the railways. Up to the present time there have been eight cases of the plague in San Francisco. All the victims died. Recent developments are awaited, although no new cases have been discovered up to May 23d. It was officially announced May 22d that several cases of the plague have been discovered at Rio de Janeiro. On May 21st the first death of a white man from bubonic plague occurred at Manila. The victim was a Government teamster. Advices from Honolulu up to May 15th declare that there had been no case of bubonic plague at that port for forty-six days, and business had resumed its former activity.

SPECIAL ARTICLES.

PRESIDENT ELIOT OF HARVARD AND ANTIVIVISECTION.

THE Puritanical spirit is far from being dead and the fanaticism that burned harmless old women to gratify an Idea still stalks abroad in the land under the guise of philanthropy and love for the brute creation.

Self-righteousness and the ascetic ideal are frequently synonymous terms and when turned in the channel of antivivisection produce some very incongruous results. The first Gallinger Antivivisection Bill was one of these and, we rejoice to say, its bubble was pricked by a discerning Senate. But self-gratification is as proverbial in its spirit as the blood of the martyrs and a second bill, No. 34, having much the same import as the Gallinger bill, has been introduced in the Senate. With reference to this new bill, the enclosed letter of President Eliot of Harvard College is worthy of serious attention. It is here presented in full.

HARVARD UNIVERSITY,
Cambridge, March 19, 1900.

Dear Sir: I observe that a new bill on the subject of vivisection has been introduced into the Senate, Bill No. 34. This bill is a slight improvement on its predecessor; but is still very objectionable. I beg leave to state very briefly the objection to all such legislation.

1. To interfere with or retard the progress of medical discovery is an inhuman thing. Within fifteen years medical research has made rapid progress almost exclusively through the use of the lower animals, and what such research has done for the diagnosis and treatment of diphtheria it can probably do in time for tuberculosis, erysipelas, cerebrospinal meningitis, and cancer —to name only four horrible scourges of mankind which are known to be of germ origin.

2. The human race makes use of animals without the smallest compunction as articles of food and as laborers. It kills them, confines them, gelds them, and interferes in all manner of ways with their natural lives. The liberty we take with the animal creation in using utterly insignificant members of them for scientific researches is infinitesimal compared with the other liberties we take with animals, and it is that use of animals from which the human race has most to hope.

3. The few medical investigators cannot probably be supervised or inspected or controlled by any of the ordinary processes of Government supervision. Neither can they properly be licensed, because there is no competent supervising or

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licensing body. The Government may properly license a plumber, because it can provide the proper examination boards for plumbers; it can properly license young men to practise medicine, because it can provide the proper examination boards for that profession and these boards can testify to the fitness of candidates; but the Government cannot provide any board of officials competent to testify to the fitness of the medical investigator.

4. The advocates of antivivisection laws consider themselves more humane and merciful than the opponents of such laws. To my thinking these unthinking advocates are really cruel to their own race. How many cats, or guinea-pigs would you or I sacrifice to save the life of our child, or to win the chance of saving the life of our child? The diphtheria antitoxin has already saved the lives of many thousands of human beings, yet it is produced through a moderate amount of inconvenience and suffering inflicted on horses and through the sacrifice of a moderate number of guinea-pigs. Who are the merciful people—the few physicians who superintend the making of the antitoxin and make sure of its quality, or the people who cry out against the infliction of any suffering on animals on behalf of mankind?

It is, of course, possible to legislate against an improper use of vivisection. For instance, it should not be allowed in secondary schools, or before college-classes for purposes of demonstration only; but any attempt to interfere with the necessary processes of medical investigation is, in my judgment, in the highest degree inexpedient, and is fundamentally inhuman.

Very truly yours,

C. W. ELIOT.

Hon. James McMillan.

In strong contrast with this temperate and careful presentation of the main central features concerning the broader lines of vivisection, we note a lengthy article in the Baltimore *Sun* of April 16, 1900, which purports to be an interview with Senator Gallinger. If it were not for the deplorable fact that "copy" is worth so much a column, it would seem incomprehensible that so much balderdash could be dished up to what we must infer to be reputable citizens in one of the most enlightened cities of the East, almost under the shadow of one of our grandest institutions of learning.

Some of the more striking misstatements of the article in question have been very ably answered by Dr. W. W. Keen in a letter to the Baltimore *Sun*, dated April 30, 1900. They are here abstracted. In answer to a statement made that Senator Gallinger had been an eminent practitioner for thirty years, Dr. Keen replies: "Senator Gallinger has not been a practitioner of medicine for a number of years. I am sure that were he familiar with the progress of medicine, and especially of surgery, within the last twenty years he would not have stated that 'the belief was expressed by competent authority (?) that little real benefit had come from all the mass of the more horrible experiments.'"

Referring to two statements in the interview he says, "Senator Gallinger says that American physicians should not 'object to the inspection and regulation which the accomplished and able faculty of England accept without question or remonstrance.' As a matter of fact, almost the entire profession of Great Britain have protested and remonstrated against their existing act. At the recent hearing on the Antivivisection bill before the committee, of which Senator Gallinger himself was chairman, Professor Welch, of Baltimore, presented letters from Lord Lister, Sir Michael Foster, M.P.; Sir T. Lauder Brunton and Sir T. Grainger Stewart, four of the leading medical men in Great Britain, representing the surgeons, physiologists and physicians, who showed how obstructive to progress the British law is, and how deleterious such a law would be if enacted in this country.

"Another statement by Senator Gallinger is still more indefensible; namely, 'Not only in foreign countries, but in the United States, human vivisection has been practised to a considerable extent; children and women in charity hospitals being inoculated with loathesome diseases for the sole purpose of watching them suffer and die.' The only evidence as to human vivisection which was alluded to at the hearing was a pamphlet published by the miscalled 'American Humane Society,' dealing (in many cases with singular inexactness) with all the instances which their drag-net has been able to cull from the medical literature of the world. Instead of human vivisection being practised 'to a considerable extent,' that pamphlet could give only two instances of anything resembling experiments on human beings in this country—one in Massachusetts and one in Maryland. The first was a series of experiments on puncture of the spinal cord; the other on the use of thyroid extract. Even these in my opinion were reprehensible. The others mentioned in the pamphlet alluded to were expressly condemned by Dr. Osler, myself and others at the time of the hearing. Not a single instance of the 'inoculation of children or women with loathesome diseases' in the United States was adduced. The whole impression of the interview upon the public is that human vivisection and the inoculation of loathesome diseases is not uncommon in the United States. How far this is from the real truth I have stated.

"It is strange that Senator Gallinger has introduced a bill for the 'regulation of scientific experiments on human beings in the District of Columbia.' Regulation implies certainly approval of such experiments under stated conditions, as is indicated throughout the bill. The medical profession as such utterly repudiates any such experiments on human beings, which Senator Gallinger seems to approve. Moreover, it is difficult to conceive of one's regulating a thing which does not exist. In the District of Columbia not a sin-

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gle instance of human vivisection has occurred, nor do I believe any ever will occur. The whole object of the introduction of the bill is evidently for the moral effect which it would produce in making the community believe that there is in existence a practice which needed to be regulated and indirectly to help the anti-vivisectionists in their cruel campaign against humanity.

"I regret very much that Senator Gallinger has made an attack upon the noble profession to which we both belong. To say that 'there is an ambition on the part of many operators to make new discoveries with little regard to the percentage of fatalities under the knife,' that 'no chance is too desperate for the modern surgeon to take,' that 'conscience has very little to do with the matter as a general thing,' and that patients who enter hospitals should 'leave hope behind,' are slanders upon the profession, which I most indignantly deny. I know the surgeons of this country well, and a more conscientious body of men I do not know anywhere. They are honest in the statement of their results, they do not hesitate to acknowledge their mistakes, and they can face their patients here and hereafter with as clean a conscience as any set of men in the country. Senator Gallinger must have been singularly unfortunate in his relations with medical men to have formed so low an opinion of their moral character."

SEMI-CENTENNIAL JUBILEE OF THE WOMAN'S MEDICAL COLLEGE OF PENNSYLVANIA.

EXERCISES celebrating this event were held in Philadelphia in connection with the forty-eighth annual commencement, May 16-18, 1900.

At the commencement May 16th the degree of Doctor of Medicine was conferred upon 26 graduates. The address to the graduates was delivered by Mary Putnam-Jacobi, M.D., of New York. The speaker advised the cultivation of the laboratory habit of mind by young physicians. This leads to the resolving of symptoms into groups of phenomena having a common basis; it causes the social and personal importance of the patient to disappear; and it excites interest in trifling ailments that involve biological principles. It would seem incredible, if not known to be true, that anti-vivisectionists and others should clamor for the repression of physiological experimentation. The experimenting which needs repression is that of Christian Scientists upon helpless children.

A portrait of Dr. Ann Preston was presented to the Corporators by the alumnæ of the College. Dr. Preston was the first woman to hold the position of dean of the college and was largely instrumental in founding the Woman's Hospital connected with that institution.

Wu Ting Fang, Chinese Minister to the United States, then delivered an admirable address. He had thought that men enjoyed a monopoly of the professions until coming to this country, and he did not know that women had schools of medicine exclusively for themselves until he received the invitation for this day, and admitted that it was largely curiosity which led him to accept it. The question of professional training for women is different from higher education; but in many respects medicine, of all the professions, is best suited to women. If only medical missionaries had been sent to China, much less trouble would have occurred, as these missionaries carry their own recommendation and people accept them. The speaker thinks it a great pity that the medical works in the Chinese language cannot be used owing to difficulty of translation. He advises young women doctors to go to China where there is room and demand for many such workers.

At the first session of the Alumnæ Association at 10 A.M., May 17th, a "History of the Association" was read by Elizabeth C. Keller, M.D., of Boston. The doings of the Association were traced from its founding in 1876. A strong point in its history is the interest taken in students of the College, many sums of money being loaned to worthy native students to enable them to complete the course.

"Women's Work in the Care of the Insane" was the subject discussed by Calista V. Luther, M.D. Of the 133 public institutions in this country, only 37 have women-physicians. Pennsylvania is the only State containing an institution where the woman's department is entirely under the management of women. This is the Norristown Insane Asylum. Most insane women should be treated by their own sex and none but women admitted to their presence. The speaker does not believe that insanity is commonly due to disorders of the generative organs. There was a time when every ache and pain was referred to these organs and too much treatment was instituted. Now the pendulum is swinging the other way. Of late less is being done and said about the generative apparatus and more attention is being given to hygiene, gymnastic exercises, and out-door life which shall make the speculum and the probe and the pledget cease to be an indispensable part of a woman's training and outfit. In reply to questions sent out, many women-physicians in hospitals for insane do not think uterine disease a common cause of insanity. Although erosions heal and prolapse are cured, physically no benefit is obtained. In cases seen personally only one had any unsoundness of the generative apparatus. In cases of amenorrhea due to anemia, etc., the menses return when the patient's general health improves, but the mental state does not improve in the slightest with the return of menstruation. The speaker mentioned the work of some women and their gratifying success in introducing the personal element in the cure of the insane. This is having classes in sewing, giving dances, games, teas, etc. Many cases also do better in small institutions where they are sent "for a rest," etc., and really do not know they are in an asylum.

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The morning session was ended by reports of alumnæ practising in various foreign countries. In India the exanthematous disease are the most common, eye-diseases are next in number, and leprosy is prevalent. Two hospitals and five dispensaries have been founded and also a woman's medical training-school. It is very difficult to secure operation for fibroid or ovarian tumors. In Russia the right to practise medicine was first granted to women in 1872. The Government now puts them on a level with men. Country doctors generally have a small hospital of 10 or 20 beds. There are 15 women-inspectors of schools in St. Petersburg, each having about 25 schools. One private hospital is entirely managed by women. In Persia a dispensary has been established in which 30 to 80 cases are treated daily. Eye- and skin-diseases are seldom absent and one-third are gynecological cases. Physicians are respected in any part of Persia. Seven native young men have been trained to assist. The women marry so young they cannot be used as nurses. In Sweden the schools where women may study medicine are all co-educational. A degree only allows them to practise privately, not admitting to government positions as in the case of men. Most of the women-physicians are devoted to gynecology. There are several Government endowment funds for women-students and the public generally receives them well. In Holland the universities are open to women the same as to men. Co-education has given no trouble.

The afternoon session was devoted to reports from various medical colleges. In detailing the history of the New York College and Infirmary for Women, Dr. Emily Blackwell stated that co-education seems to be the way of the future. The position of women in such schools, from their small numbers, etc., is more difficult than that of men, but this will be overcome. The full advantage of co-education will come only when there is co-operation throughout the management and teaching of these schools as well as co-education on the benches.

The history of the Woman's Hospital of Philadelphia was read by Dr. Ella B. Everitt, resident physician. The hospital was established in connection with the College in 1861 to furnish a place where women might be treated by physicians of their own sex, to furnish clinical instruction for students, and to train nurses. It now has 130 beds. In 1899 1038 cases were treated and 5425 dispensary visits were made. In 1875 two ovarian tumors were removed from patients in the hospital by Dr. Emmeline Cleveland, these being the first major surgical operations performed by a woman. During the Spanish-American war 97 soldiers were cared for in the hospital.

The morning session of May 18th began with the President's address by Dr. Lilian Welsh, of Baltimore, on "Present Tendencies in Medical Education in the United States." Dr. Welsh believes that the tendency in this country is to regard a four years' course, of at least 9 months each, devoted to the exclusive study of medicine, as the standard to which all good schools must in the near future conform. Preliminary education is needed and even the graduates of reputable literary colleges, unless the work leading to their degree has included physics, chemistry, and biology, are not prepared to begin the study of human anatomy and physiology. To enforce a higher standard of admission will require vastly improved teaching facilities in the great majority of medical schools. Laboratory methods are being introduced in all departments of teaching and soon the man who teaches practice or surgery cannot be a busy practitioner who takes a few hours for didactic lectures. Instead, he must be a salaried teacher who investigates in his own laboratories. The most important event in medical education in the last decade was the organization of the Johns Hopkins Medical School. The study of medicine is essentially graduate-work. Opinions may differ as to whether the curricula of colleges designed to give a general education should be modified by sex, but the question of what should constitute a medical curriculum is sexless. The next fifty years will witness an increased struggle for existence on the part of the independent medical schools. The survival of the fittest will depend upon their power of adapting themselves to a progressive standard of instruction; this adaptability in the case of individual schools will be possible only with an ample endowment fund. Medical schools not heavily endowed will find it difficult to maintain an honorable existence.

The Dean, Dr. Clara Marshall, read a paper upon "The Past, Present and Future of the College." Mention was made of the time when students of the College were excluded from all the hospitals of the city. Now they are admitted to clinical lectures and instruction in nearly all of them. The Woman's Medical College was one of the first to establish entrance examinations and inaugurated the four-year course in 1893. In the State Board examination in June, 1899, it was the only college whose representatives met with no failures. There are now 66 instructors, the large majority of these being women. The graduates have met with success as missionaries; they have founded hospitals; they have read important papers before societies. Not enough of these papers have been published to give them a true recognition. The future success of the college will depend not so much upon the number of students as upon the endowment that can be secured.

The remainder of the forenoon, and all of the afternoon, session was devoted to the reading of reports from alumnæ in the various States of the Union. In California women are welcomed in medical societies, but few hold public appointments. In Oregon only one woman physician has held public office. One graduate received an appointment as hospital interne because of her class-standing, but her professors advised her not to accept it, this advice being taken. This

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fairly represents the sentiment of the State. In Colorado public positions are held by women and their position depends upon ability. Virginia is the most conservative State, men and women alike being opposed to the enlarging of woman's sphere.

Officers of the Alumnæ Association elected were: President, Dr. Elizabeth L. Peck; vice-president, Dr. Ruth Webster Lathrop; secretary, Dr. Gertrude A. Walker.

Thus closed the fiftieth anniversary of the Woman's Medical College of Pennsylvania. The College has a record of which it is justly proud. The reports from all parts of the world show that women-physicians are slowly but surely gaining recognition and that this recognition is essentially due to merit and ability and not to social or political influence.

CORRESPONDENCE.

OUR LONDON LETTER.

[From Our Special Correspondent.]

LONDON, May 17, 1900.

THE FIRST MEDICAL VICTORIA CROSS OF THE CAMPAIGN—THE RETURN OF THE FIRST CONSULTANT SURGEONS FROM SOUTH AFRICA—STORM OVER MIDWIVES' BILL SUBSIDING—A SURGICAL DIARY OF THE SIEGE OF KIMBERLEY—STEPHEN PAGET'S BOOK AND THE "ANTIS"—TYPHOID AMONG BOER PRISONERS AND ENGLISH TROOPS IN THEIR LAAGERS—NATIVE "SCHOLARSHIPS" AT THE LIVERPOOL TROPICAL SCHOOL—THE MOSQUITO EXPERIMENTS IN THE CAMPAGNA.

THE medical hero of the hour is Major Babtie of the Royal Army Medical Corps whose gazetting for the Victoria Cross was announced a short time ago. When we say "medical hero" we mean not simply a hero in medical circles, for the fame of his exploit has spread far beyond these and general satisfaction is expressed that in him the heroism of the non-combatant in battle is to be adequately and efficiently recognized. The story of his feat has been told so often that little more than a reference to it is needed. The reckless, headlong dash forward of a heavy battery, far in advance of the skirmish line even, let alone the infantry whom they were supposed to support, as if they expected to mow the Boers down with their gun-wheels, war-chariot fashion. The sudden burst of a murderous sheet of lead and flame out of a green mimosa wood, literally mowing down every living thing before its sweep and covering the little plain with dead and dying. News is brought of the disaster and Babtie immediately volunteers to go to the aid of the wounded. Three times is his horse shot under him ere he reaches the shallow gully-trough into which most of the wounded had crawled or been dragged, but out he ventures from its shelter time after time under a perfect storm of bullets until all had been brought into shelter, among them Lieutenant Roberts, the son of the Commander-in-Chief. There for seven sweltering hours he plied the water-bottle and the morphine tablet, the only shade from the broiling African sun being a letter out of his pocket which he held over the face of poor young Roberts. Major Babtie will do the coveted decoration almost as much honor as it will him.

The cause of the return from South Africa of the two most distinguished consulting surgeons, who have gone to the front, before the war is apparently more than half over is giving rise to some little comment and speculation. The explanation, however, is probably that all the medical arrangements were found to be working so admirably that, after a thorough tour of inspection and ascertainment of the fact, they were really perfectly free to return home with a clear conscience. Considerations of health also played a part in both instances, as the strain of service in the field told heavily upon Sir William MacCormack's advancing years and Mr. Treves had suffered severely from dysentery. Even the personal experience of the latter shows the effects of the disease; he went out the picture of florid vigor with a most generous waist-line; he returns looking as if he had lost fifty pounds, with diminished color, and whitened hair.

Of course, as a matter of fact, the great men were merely sent out by the Government, or rather the War Office, in a sudden spasm of fright and repentance for the long and obstinate neglect of the Army Medical Corps and its needs in the hope of "saving its face," as the Chinese say, by a burst of liberality. But the despised Army Medical Corps has returned good for evil by working so admirably that the consultants, as most of them have frankly confessed, found that there was really little for them to do except to cordially commend the efficiency of its management. Of course, it has been a great satisfaction to the families and friends of the soldiers to know that they would have at their disposal the very best advice and highest skill in the profession, but the campaign so far has been anything but "an operators' war," the vast majority of cases recovering under a policy of strict cleanliness and masterly inactivity, even from the most appalling and extensive injuries. "Tom" Smith's parting advice to one of the consultants, "Don't do any operations," might be taken as the surgical motto of the campaign.

A most animated tempest in a tea-pot is still raging in the ranks of the profession over the Midwives' Bill. A considerable number, possibly the silent majority of the profession seems to have drifted into the position that midwifery legislation of some sort is absolutely inevitable, indeed, necessary, and that perhaps this Bill has as few objectionable features as any which is likely to be passed. A few energetic spirits like Victor Horsley are doing their utmost to amend the Bill while there is yet time, while another element in the profession is holding meetings and

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denouncing the Bill and all who have even tacitly approved of it. This last element probaly represents a class of practitioners who would be most keenly affected by the provisions of the Bill and who are least fully represented upon the great governing bodies. Their demand, however, for the resignation of Dr. Stephen Glover, one of the direct representatives of the profession upon the General Medical Council, because he did not oppose the Bill, is universally disapproved of and the refusal of the gentleman to accede to their request, with its gentle sarcasm, fully endorsed. The battle has now reached the correspondence stage in the journals and will probably soon die out, although Mr. Horsley fiery pen has just been drawn into the fray and his energy as a letter-writer is as phenomenal as in every other capacity. The Bill seems almost assured of passage now and with some most necessary amendments will make a decided improvement upon the present haphazard state of affairs, almost like that of the profession before the Medical Practice Acts.

The medical side of the late stirring times in South Africa is soon to be represented in permanent literature as Dr. Evelyn Oliver Ashe, Surgeon to the Kimberley Hospital, is about to publish a diary of the siege of Kimberley through Messrs. Hutchison, the well-known London publishers. It is really to be hoped that some publisher will succeed in inducing Mr. Treves either to edit and reproduce his brilliant, graphic letters to the *British Medical Journal,* which have attracted such wide attention, or in some other way to make a book out of his interesting experiences.

A furious discussion is still raging over Stephen Paget's admirable little book upon animal experimentation. This was a quiet, clear, and extended presentation of the simple facts of the results of vivisection in the direction of serums, antitoxins and preventive medication generally, and of course caused shrieks of dismay in the "Anti" camp. Their permanent secretary, Stephen Coleridge, has taken advantage of a review of it which appeared in the *British Medical Journal* to pour forth most voluminous replies and corrections which the editor with great forbearance and courtesy has permitted to appear *in extenso.* In this he is probably right, for the more the matter is ventilated, the more the facts will tell and the truth prevail, and, while discussion of this sort is superfluous for the profession, the columns of both the *Journal* and *Lancet* are watched with hawk-like keenness by the daily press here and anything of public interest copied and commented upon at once, so that indirectly the public will be reached and benefited.

The arrangements for the malaria experiments announced by Dr. Patrick Manson are rapidly progressing. The mosquito-proof hut has been constructed and will shortly be sent to the Campagna. Dr. Sambon, a lecturer, and Dr. G. C. Low, a student at the Tropical School of Medicine, have volunteered as "subjects" and will occupy the hut, devoting their time to "mosquito-dodging." This sounds like a difficult, if not almost impossible, task, but may possibly prove feasible on account of the limited and regular hours of flight of the Anopheles. Bites from Culex, however, are almost certain to be received and is it going to be always possible to make a determination of the species on each occasion? The complete escape of the experimenters would be a triumphant demonstration of the mosquito-theory, but the infection of one or even both of them would not necessarily disprove it, in view of the numerous chances of accidental bites.

The scourge of enteric fever among the Boer prisoners at Simonstown seems to have reached its limit and to be largely confined to those prisoners who were infected before entering into captivity. A significant corroborative piece of evidence as to the origin of this disease is found in the fact that the British regiments which occupied Paardeberg after Cronje's surrender were severely attacked by typhoid from one to three weeks later, all the available drinking-water of the region having become contaminated from this nest of pestilence with its living filth and decaying carcasses.

The plucky little Liverpool School of Tropical Medicine is again to the front. Not content with offering instruction in these most important diseases to English and other European students, its chief supporter and financial mainstay, Mr. Alfred G. Jones, has now brought forward a scheme whereby the native students of tropical colonies can be brought to Liverpool and obtain a medical training at a small expense and thus spread the knowledge gained by the researches of the staff where it will be most effective for good. Through his great steamship company (Elder, Dempster & Co.), passage at exceedingly low rates is offered and it is hoped that many will avail themselves of the scheme. The estimated cost of the complete course, $3000, even although it includes living and traveling expenses, sounds high to American ears. It is, however, little more than half the probable average cost of an ordinary English medical education.

TRANSACTIONS OF FOREIGN SOCIETIES.

French.

PLEURISY COMPLICATING APPENDICITIS—A QUICK DIAGNOSIS OF RABIES—THE CHOICE OF OPERATION IN RENAL TUBERCULOSIS—PERFECT ASEPSIS SECURED BY THE USE OF RUBBER GLOVES—A SIMPLE METHOD OF DETERMINING THE PRESSURE IN PNEUMOTHORAX—SECONDARY INFLAMMATIONS FOLLOWING THE GRIP—ANGIOCHOLITIS WITHOUT ICTERUS—ADDISON'S DISEASE IN A CHILD SIMULATING PERITONITIS.

AT the Academy of Medicine, April 10th, DIEULEFOY called attention to a complication of appendicitis which he has frequently observed. It

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is an infection of the pleural cavity with the same agent which causes the appendicitis. He therefore proposed the name appendicular pleurisy. A study of his cases convinced him that the infection spreads by the lymphatics of the peritoneum to the right hypochondrium, passes through the diaphragm and enters the pleural cavity. This complication occurs between the eighth and the fifteenth day after the onset of the disease. As the infection does not begin to travel upward until three or four days after it begins in the appendix, the pleural complications will not be found in cases in which the focus of infection is early removed. The premonitory symptoms are pain in the region of the liver and an apparent increase in its area of dulness, anxious breathing, etc. The pain may radiate to the right shoulder. These symptoms are due to the inflammation about the liver and under surface of the diaphragm. Pleurisy of this sort is usually suppurative and of large extent. In the beginning pleuritic sounds are heard, but these rapidly give way to the signs of pus. The amount of fever is variable. The constitutional symptoms are grave, although they are not wholly due to the pleurisy. Edema of the chest-wall has been observed. The trouble may be mistaken for gangrene of the lung due, possibly, to tubercular perforation. An exploratory puncture will serve to distinguish between them. If pus is obtained the operation for empyema should be performed at once.

CORNIL described the method by which Babes of Bucharest makes a quick diagnosis of rabies by a histological examination of the medulla of the suspected dog. A fragment of the brain of the sick dog is injected into the head of a rabbit while a section of the dog's medulla is hardened with formalin. In twenty-four hours sections are cut from this and stained with carbolic fuchsin or methyl blue, dehydrated, mounted and examined with a low power. If this examination shows the presence of embryonic nodules in the gray substance, together with an embryonic condition about the vessels, or everywhere, with chromatolysis of the nervous elements, one may safely conclude that the dog was mad. In the cases in which these signs were found the inoculated rabbits developed rabies, while the rabbits inoculated with the brain-substance of sick dogs whose medullæ did not present the signs above mentioned failed to develop rabies.

At the session of April 17th NOCARD spoke of the importance of this method of diagnosis which enables the physician to take some definite measures with reference to the persons bitten by the dog within twenty-four or forty-eight hours of the time of the accident. Unfortunately, however, investigations of other histologists have shown that the lesions mentioned in the medulla of the dog, while almost invariably found when the animal succumbs from his malady, are not present if he is killed in the beginning of his attack. However, if the histological examination yields positive results they are none the less valuable.

At the Society of Surgery, April 4th, POUSSON spoke of surgical intervention in renal tuberculosis. He practised nephrectomy seven times with seven successes and nephrotomy four times with one success. Two patients died and secondary nephrectomy was performed upon the third.

REYNIER agreed with Pousson that nephrectomy is preferable to nephrotomy, provided the other kidney is sound.

TUFFIER said that the treatment of renal tuberculosis ought to vary according to the condition of the patient. Thus, in case of tuberculous perinephritis it may be unwise to remove the kidney, because of the difficulty in determining the condition of its fellow.

At the session of April 25th QUÉNU gave the results obtained by him during the past year, rubber gloves having been used at all operations. There were 102 laparotomies with 14 deaths. In 9 of the fatal cases the condition requiring operation was a septic one. The remaining 5 deaths could in no sense be attributed to any lack of asepsis either at the operation or subsequently.

TUFFIER said that under no circumstances would he allow himself to be operated upon by a surgeon who had just been handling a septic patient. He believes in the use of rubber gloves in septic cases. For other cases he prefers thread gloves which certainly greatly reduce the danger of infection from the hands of the operator, while allowing him to proceed rapidly—an important point in many operations.

At the Medical Society of the Hospitals BECLERE called attention to a simple method of determining the pressure in pneumothorax, the same being also a safe method of treatment. A hypodermic needle is thrust into the pleural cavity between the ribs. Its external end is connected by a short rubber-tube with a glass-tube sunk to its middle in a glass full of water. The height of the water in the tube will then show whether or not the pressure in the pleural cavity is increased. If gas is present the apparatus will permit its escape without the risk of cutaneous emphysema which so often follows where a trocar is used to evacuate the gas.

At the session of April 27th FAURE said that the grip is often followed by inflammations of the nasopharynx, frontal sinuses, tonsils, etc. Such secondary inflammations are accompanied by the symptoms which mark the primary infection, *viz.*, fever, general malaise, night-sweats, etc. In the intervals between such attacks one may observe slight rises of temperature which show that the infectious process has not been wiped out. In this manner one can explain that state of persistent malaise which so often follows the grip and which disappears completely if the nasopharyngeal inflammation is treated by local antiseptics and the patient is given injections of antistreptococci serum. The author maintained that the rebellious neuralgias and rheumatic pains and various neuropathic symptoms which so often complicate the grip are due to the streptococcic toxins secreted in the mucous membrane.

RENDU, while agreeing with Faure's pathology of nasopharyngeal lesions, did not advocate the use of antistretptococcic serum, because it is impossible to say just what streptococcus is at work and to give serum from a different variety can produce no good result.

P. LEREBOULLET mentioned two cases of subacute angiocholitis which ran their course without icterus.

NETTER reported the occurrence of Addison's disease in a child aged thirteen years. While in full health he was seized with chills, vomiting and diarrhea, fever, prostration and acute abdominal pain. The face, the pulse, the fecaloid vomiting and the temperature seemed to indicate peritonitis. A light pigmentation of the skin alone suggested Addison's disease, but nothing in the history pointed to this diagnosis. The patient died in three days after the attack and there was found an old tuberculosis of the suprarenal capsules. Peyer's patches were swollen but not ulcerated. The spleen was very large and scrapings of its pulp gave a pure culture of streptococci.

SOCIETY PROCEEDINGS.

AMERICAN GYNECOLOGICAL SOCIETY.

Twenty-fifth Annual Meeting, Held at Washington, D. C., May 1, 2 and 3, 1900.

(Continued from Page 807.)

THIRD DAY—MAY 3D.

Bronchial Disease and Ether Anesthesia.—Dr. Thaddeus A. Reamy of Concinnati was the first paper read a paper on this subject. It will appear in full in a subsequent issue of the MEDICAL NEWS.

Dr. McLean of New York opened the discussion and said that it was most important to keep the operating-room at a high temperature and to avoid unnecessary saturation of the patient with ether. The anesthetizer should pay close attention to the patient and not do anything else.

Dr. Harris of Paterson said that it was very important to have perfect quiet in the room where the anesthetic was being administered, as any noise diverts the patient's attention and makes the time required to produce anesthesia very much longer.

Dysmenorrhea and Appendicitis.—Dr. Archibald McLaren of St. Paul read a paper on this subject. It will appear in full in a subsequent issue of the MEDICAL NEWS.

Dr. Skene of New York opened the discussion and said he had seen ovarian pain due to appendicitis cause dysmenorrhea ovariana. This pain would disappear on removal of the appendages. The best method of removal of the appendix is by the use of hemostatic forceps, as by heat and pressure one can absolutely close the lumen of the appendix. There is no danger of hemorrhage or septic absorption, as the stump will undergo organization and so relief is permanent and absolute.

Dr. Smith of Montreal said that he had found concomitant appendicitis in nine cases when operating for salpingitis and ectopic gestation. The differential diagnosis between salpingitis and appendicitis is most difficult, and the fact that they may both be present is an argument against the vaginal route. His method of operating on the appendix is to cut it off on a level with the colon, then close the resulting hole with Lembert sutures exactly as if it were a bullet wound. In young girls a pus-tube is often the result of appendicitis. This is caused by the appendix being forced down on to the Fallopian tube by constipation and by the migration of the colon bacilli from one to the other.

Dr. McLaren closed the discussion by saying that he fully agreed with Dr. Smith's remarks. In these cases the disease is usually confined to the right tube while the left is perfectly normal.

Demonstration.—Dr. Philander A. Harris of Paterson, N. J., was next on the program and after demonstrating the advantages to be gained by the use of his chart for the determination of pelvic asymmetry from a very simple method of external pelvimetery, spoke of the desirability of employing a certain background in the photography of pathological specimens and said he had devised such a background, consisting of cardboard divided by lines into one-inch squares. The specimen to be photographed is pinned on this background and its exact size is thereby quickly shown.

Dr. Smith of Montreal opened the discussion and said that he had had good results from the method of Dr. Pich of Berlin which consisted in tying the specimen to be photographed on a galvanized wire-screen having a one-inch mesh. This accomplished the same result.

Dr. Van de Warker of Syracuse said that he had had good results by suspending the specimen in water beside a rule and then photographing it from above.

Dr. Goffe of New York said that Dr. Pryor had used the wire screen several years ago and that the procedure was original with him.

Face Presentations.—A paper on this subject was read by Dr. Malcolm McLean of New York. It will appear in full in a subsequent number of the MEDICAL NEWS.

Dr. Greene of Boston opened the discussion by saying that he had never seen a case of face presentation with the chin posterior in which he had not been able to deliver either with forceps or with his own hands.

Dr. Murray of New York said these cases are very infrequent and that when there is an abnormal presentation the fault is either in the child or else there is a defect in the mother's pelvis. A careful vaginal examination will generally show exactly what is wrong and then the appropriate treatment may be applied. If the case be let alone, the child or the mother, or perhaps

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both, may die. He has used Dr. McLean's method with success. When cephalic version fails, podalic version should be tried, and if this fails the only alternative is to do either a Cæsarean section or else one of the destructive operations.

Dr. Reynolds of Boston said that he had seen nature convert a vertex presentation into a chin presentation when the head is low down in the pelvis. This operation at the brim of the pelvis is a well established procedure, but when ordinary corrective measures fail symphysiotomy is indicated. This will give a marked increase in space and permit labor to go on to a normal termination.

Dr. McLean closed by saying that he wished to emphasize the fact that in his cases the head bore the ordinary relation to the size of the pelvis and was not small, as many had believed. It was an average case and not one of a very small child in a very large pelvis—in fact the latter was below normal size. His method simply consisted in taking full advantage of the soft parts of the pelvis that can yield to pressure.

The Society then adjourned to meet at Marshall Hall in the afternoon.

Anniversary Exercises.—Dr. Thomas Addis Emmet read a paper entitled "Personal Reminiscences Associated With the Progress of Gynecology," in which he said that he had read the first paper at the first meeting of the Society at its foundation on September 3, 1876, taking as his subject the Etiology of Uterine Flexions. There were twenty-five members at that meeting and since then two-thirds of them have died. The beginning of the Woman's Hospital in New York was a small building for the cure of vesicovaginal fistulæ and since its foundation over 600 cases have been cured there and some were discharged as incurable. To-day no fistula is incurable, and many can be prevented. Dr. Sims was attached to this Hospital for five years before going to Europe and his departure was a great loss to the profession as he never again had the opportunity for study. His speculum was first tested there and proved a useful addition to the gynecologist's armamentarium. From 1859 to 1869 the author was in charge of the Woman's Hospital and did much more work than Dr. Sims had ever done there as the latter had never kept the histories or followed up the cases. It was during his service with Dr. Sims that he (Dr. Emmet) devised many of the instruments which bear his name. In 1862 he devised the hot-water vaginal douche as a substitute for ice water which had been used entirely previous to this time, and it proved to be one of the greatest advances in the history of medical science. Soon after Dr. Sims' departure two very difficult cases of vesicovaginal fistula presented themselves. He operated on them both and cured them. Then he sent for thirty cases which Dr. Sims had pronounced incurable and operated on them all with success. In 1868 he described his method of forming a new urethra after it had been destroyed by sloughing. He has since done it with entire success in fifty cases. At the time this work was published he had cured long-standing cystitis by forming a permanent fistula into the vagina, had removed vesical calculi through an incision made in the vesicovaginal septum, and pointed out the dangers of incontinence following dilatation of the female urethra, had removed pedunculated fibroid tumors by section and other small growths by traction, had made endoscopic examinations, had made a study of prolapse from the simple cases to those in which there was complete procidentia and described the different plastic operations on the vagina. In 1863 he described his method of operating on the posterior wall of the vagina which he had originally employed in a case of vaginal prolapse, so every operation for the repair of lacerations of the perineum is only a modification of his method. He has cured thousands of women who have suffered from prolapsus uteri and in over two hundred of them the uterus was entirely outside of the vagina. In several of these cases the woman subsequently gave birth to a child and no recurrence followed. There is a plane in every woman's pelvis which bears a most important relation to the blood supply. Any alteration of this plane prevents the blood from leaving the pelvis as easily as it enters it and passive congestion follows as a natural course. Ventrosuspension often relieves many women, but this method is purely empirical for the reason that the uterus seldom remains where it was placed at the operation, the attachment invariably lengthens. Plastic work on the vagina is much better as it more often results in a permanent cure. In 1862 he recognized lacerations of the cervix and also the fact that they cause often a hypersecretion in the uterine canal as the result of some pelvic inflammation. In these early days much more attention was paid to ultimate effect rather than to cause. He was the first to observe the intimate relation of pelvic peritonitis and cellulitis to uterine disease. He wrote his first book, which represented an entirely new departure based on original research, from the existing theories of gynecology in 1879 and offered it to a well-known publishing-house which refused it on the advice of one whom he had believed to be his friend. He then published it himself at his own risk, and since then it has gone through many editions. At this time he also showed that unless the cellular tissue be infiltrated below the dip of the peritoneum no peritonitis can exist. In 1878 he published a paper on vesicovaginal fistula, showing that it was the result of sloughing caused, as a rule, by the use of ergot during labor. Since then ergot has gone entirely out of use and vesicovaginal fistula has become a very rare condition. Before that time there used to be forty beds in the Woman's Hospital always full of these cases, but in the last two years he has seen only two cases. He cured from 96 to 97 per cent. of the supposedly incurable cases. At this time he showed the use of the pessary and how in many cases the vaginal tam-

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pon may be substituted to advantage, but the pessary is still useful in a certain class of cases. The Trendelenburg posture was shown to be of value, especially in those cases where the normal circulation in the pelvis is opposed to the laws of gravity. Nature when let alone cures many cases of laceration of the cervix, but where she fails the best operation is a conical amputation which the author originated, as well as pointed out the very close relationship existing between lacerations of the cervix as a cause of epithelioma of the cervix. He was the first to call attention to the value of uniting the torn ends of the sphincter muscle in all cases of true laceration of the perineum, thereby restoring continence. When this is not done a cicatricial band takes the place of the ununited ends and the operation is often not followed by relief. The past twenty-five years of progress in gynecology have been rendered brilliant through antisepsis rather than through operative skill. Too many of the younger men in the profession are so anxious to operate that they neglect the careful preliminary study of medicine in general. In 1860, when he first commenced to do ovariotomies, if the patient died there was always a coroner's inquest for the surgeon to face. Since then he has performed more than 1500 laparotomies, two-thirds of which have been for the relief of ovarian tumors and many were done before the discovery of the principles of antisepsis. Then it was the custom to tap the tumor and to wait until the peritoneum became tolerant before operating. In many cases operation was only done as a last resort. He then outlined the different methods that have been used in treating the stump after hysterectomy and also considered the relative advantages of the different methods of suturing. He said his method of treating pus-tubes was to make a vaginal incision and, after incising the pus-tube, stitch it to the vaginal incision and so secure perfect drainage. When he began the study of medicine, fifty-four years ago, peritonitis was treated by doses of calomel and soda followed by saline purges. Then Clark's treatment by opium was introduced and was responsible for an enormous number of deaths, and to-day the accepted treatment is again by saline purges and it is most successful in the few cases that occur. In 1882 he removed a uterus for fibroid tumors through the vagina, having first made an abdominal incision, and the woman died. The greatest advance in the operation of hysterectomy has been the introduction by Stimson of the method of tieing the uterine and ovarian arteries. He considers that Dr. Kelly has done more than anyone else to make hysterectomy possible. He has just had a case in which there were nine fibroid tumors in the uterus and the complication of pregnancy. He removed them very gently, the woman did not abort, and he had less trouble in doing it than he used to have in removing a simple para-ovarian cyst.

"The Status of Gynecology in 1876 and in 1900" was the title of a paper read by Dr. Alexander J. C. Skene of New York. (See page 769.)

Dr. James R. Chadwick of Boston then read a paper on "Reminiscences of the Foundation and Early Years of the Society." Dr. Chadwick, who was one of the founders of the Society and its secretary for many years, gave an account of how the Society was formed and related anecdotes of the men, now dead, who were instrumental in the good work that the Society has done. "The Personal Factor in the Work of the American Gynecological Society." Dr. E. Van de Warker of Syracuse read a paper on this subject. "A Foot-Note," by Dr. Thaddeus A. Reamy of Cincinnati, consisted in a retrospect of the work of the Society and an outline of what may be expected of it in the future.

AMERICAN NEUROLOGICAL ASSOCIATION.

Twenty-sixth Annual Meeting, Held at Washington, D. C., May 1, 2 and 3, 1900.

FIRST DAY—MAY 1ST.

President's Address.—This was the opening paper of the first day's session. (See page 819.)

Christian Pseudoscience and Psychiatry.—Dr. Smith Baker made reference to the *Christian Science Journal* for January containing an article by Judge Joseph R. Clarkson, of Omaha, who stated that "Christian Science makes stronger, healthier, more unselfish, more honest, contented, holier, purer poor people;" through Christian Science there have been, as well as can be estimated, more than a million cases of healing of every sickness; that in the opinion of the best qualified judge there is no disease Christian Science cannot meet, arrest and destroy. Dr. Baker suggested that if a disease is acute it must come within one of two classes: it is either natural, self-limited or easily cured, or the diagnosis is in error. It could not be supposed that Christian Science can cure a real fracture, or dislocation or crushed bone. Nor can it be believed that a case of typhoid fever, smallpox or pneumonia is under the control of the "healer."

Imperative Ideas in the Sane and Their Management.—Dr. Edward B. Angell read this paper and pointed out that in the normal mind there are words, phrases, emotions, or ideas, which recur and force themselves against the will. When the mind is morbid, these demands of imperative ideas become a disease against which the most strenuous efforts of the will seem impossible. The essayist's idea was to ascertain how far our present knowledge of these imperative ideas will enable us to recognize their significance. In order that these morbid ideas may be investigated, it is essential that the mind be studied in its automatic activity, a state which obtains in conditions of sleep, hypnosis, somnambulism, hysteria and insanity, and during these conditions normal evolution is largely or entirely suspended.

Dr. Angell believed hypnotism holds out a certain form of relief, and only through its influence a state of primary disturbance, existing as a sub-

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conscious idea in the mind of the patient, could be ascertained. In the use of hypnosis the patient should invariably be carefully awakened and left in a calm mood at the end of the séance.

In discussion, Dr. Smith Baker suggested that as a prenatal condition there are certain conditions of the mind in the form of a stress brought about by deprivation, as in sexual obsession, when one or the other parent or both have lived a life of absolute sexual stress of the order of deprivation; or, during the time of travail, when the woman is eager for property and yet is deprived of obtaining it. That condition seems to be one which will produce a weak spot in the child, where the imperative obsession will be developed later on. The essayist was somewhat skeptical about hypnosis; he would rather endorse the more open means of educating the mind by familiarity with literary works, essays, some particular new field of mental activity.

Dr. Knapp was of the opinion that Dr. Angell's proposition of imperative conception and fixed idea cannot be carried out in practice. To remove a fixed idea by hypnosis appears like applying a spinal brace for the cure of a weak back.

Dr. S. Weir Mitchell spoke of a case of a woman who when she turned over a book, for instance, was imbued with a desire to change it a certain number of times; with that impulse she would have associated in her mind a certain relative. If she thought of her cousin, she would turn the book three times; if her husband she did it seven times. When a child she was disposed to shrug her shoulders and connected the latter peculiarity with the former. A cure was wrought by being pinched and connecting the discomfort with the pinch. He did not know of a single case that has been cured by hypnosis alone.

Dr. Sachs believes that imperative concepts are physical phenomena, allied to a physical condition, and do occur in persons otherwise normal; that hyphosis is rather the origin than a method of cure in this condition.

Dr. Putnam thought that the use of hypnotism was curative sometimes in cases of sexual perversion or drug-habit.

Dr. Browning said if a woman who had come of a good family, but whose environments precluded any mental development, could embrace a wider field of cultivation, she could be cured.

In closing, Dr. Angell said that the American men or women are not as impressionable to hypnosis as are the French or German or other Continental races.

Wernicke's Conduction Aphasia, With Autopsy.—Dr. Howell T. Pershing, of Denver, related a case of a man, aged forty-five years, brought into the hospital in an unconscious condition. The history showed that the man had fallen from his wagon into the bed of a small stream. There he lay for thirty-six hours before being discovered. Examination revealed the right arm and leg rigid and tremulous. No sign of injury to the head was apparent; the pulse and heart were normal; respiration 20, somewhat stertorous; temperature 99° F.; urine normal. Conformable syphilitic thrombosis in the left hemisphere. In unctions and potassium iodide were given. In about a week consciousness returned, but the man's talk was a mere jargon. There was no paralysis. The word-deafness disappeared at the second week and nothing remained but the jargon paraphasia and certain associated defects. His reading was markedly paralexic; acuity of vision was good. Hemianopsia was absent and he kept an observing eye on everything. There was substantially no change until January 23d, when vomiting suddenly appeared and the patient relapsed into unconsciousness. Pulse 64, weak and soft. Heart-sounds normal. Temperature in right axilla, 97.7° F.; in the left 97.2° F. Respiration of the Cheyne-Stokes variety. Unable to swallow. Death occurred January 29th.

A Case of Bullet Wound of the Spinal Cord.—Dr. Joseph Sailer reported the case of a man aged thirty-one years, a major in the Cuban army, who was wounded November 2, 1896, by a ball that entered one cm. to the left and just below the right nipple, passed out about 2.5 cm. to the left of the spinous process of the twelfth dorsal vertebra, penetrating the lung, liver and spinal column. There was marked atrophy of the gluteal region. Three years later a laminectomy was performed to relieve the distressing lancinating pain, and a spinal pachymeningitis was found. Allocheiria was a peculiar symptom of convalescence.

Dr. S. Weir Mitchell said that to him the disappearance of the buttock-muscles was very remarkable.

Dr. Putnam mentioned the case of a woman who had a fall in 1897. The cardinal symptoms were complete paraplegia and loss of sensation of the lower extremities of the trunk with blunted sensation of the arms, but no loss of power in the muscles of the upper extremities. Operation revealed the cervical spine of the sixth vertebra broken and freely movable.

Contribution to the Study of the Plantar Reflex.—Dr. G. L. Walton read a report of seven hundred and fifty tests, made with special reference to the Babinski phenomenon. His conclusions bear out the researches of Babinski, Hurd and Collier.

Tumor of the Superior Parietal Convolution Accurately Localized and Removed by Operation.—This case was of unusual interest from the clinical, physiological and surgical points of view. The medical history of the case was presented by Dr. Mills, the surgical history by Dr. Keen, and a pathological report on the nature of the growth by Dr. William G. Spiller. The patient was a man, fifty-six years of age, who had had some neurasthenic and other symptoms since 1884, but who first began to have paresthetic attacks affecting his right upper extremity in 1894. These attacks were of irregular and infrequent occurrence, and were variously described as ant-like feelings, of crawling, tingling or battery sensa-

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tions. After the attacks the arm usually felt somewhat heavy. He frequently complained of a feeling of pressure or discomfort in the head and especially in the left frontoparietal region. Sometimes this feeling was described as a headache, but he never had the typical headache of a case of brain-tumor. Optic neuritis was absent from first to last, and vertigo and vomiting were so infrequent as not to call for special consideration. The patient was frequently hysterical and despondent. About five months previous to the operation the patient began to show some ataxia in the right arm and later in the right leg, and when investigation of his condition was first made by the writer all forms of cutaneous sensibility were impaired, muscular sense was lost, and astereognosis was a marked symptom. As the case progressed paresis and eventually paralysis of the arm and leg supervened, this when complete of course masking the ataxia. The patient developed a disorder of speech chiefly showing itself as a verbal amnesia and fatigue on reading. At one examination the patient showed a temporary partial right hemianopsia. Reversals of the color fields and contractions of the fields for form similar to those supposed to be typical of hysteria were present at several of the examinations. The reflexes on the ataxic and paralyzed side were somewhat exaggerated, ankle-clonus being present. The patient was emotional and markedly hysterical.

An operation which was successfully performed by Dr. W. W. Keen November 24th exposed a tumor in the exact region which had been assigned as the seat of the growth, namely, the superior parietal convolution. As the flap was not to be in the thin squamous portion of the temple, but in the parietal, which might cause great embarrassment from a very thick skull, not only by the time required to chisel through the bone, but the difficulty of fracturing the base of the osteoplastic flap, Dr. Keen first made two trephine-openings, 0.5 cm. in diameter, at the two points between which he wished to fracture the flap. The skull was found, as had been feared, unusually thick, a full centimeter. This being the case a Gigli wire saw was passed between the two points and the bone sawn half through in order to weaken the base of the flap. A large flap, each side of which measured 10 cm. long, was then made, the anterior border of it being a little in front of the fissure of Rolando; the upper border within 1 cm. of the median line.

As soon as the dura was exposed at the lower portion it was suspected that there was fluid beneath it. A dural flap was then cut, with the base upward. The tumor suddenly came into view at the anterior superior angle. It measured 5.5 cm. by 4.5 cm. and weighed one ounce and three drams after removal. It was made up of small granular masses like those of an ordinary raspberry and was of a deep red or purple color. In order to remove the entire tumor a portion of bone was removed by the rongeur forceps anteriorly. The tumor had begun as a subcortical mass and recently burst through the cortex. The tumor, being separated from the brain tissue, was removed and with it a long finger-like cyst which extended, by measurement, 10 cm. (four inches) into the substance of the brain and contained one and a half to two ounces of fluid. The patient made a complete and very smooth recovery, the wound being entirely well by the sixth day. His speech completely returned, the paralysis of the leg and arm largely disappeared, cutaneous sensibility was in time restored, and he was so far recovered that he was able early in March to start for a short trip to Egypt. He reached this country again April 19, and was seen last by Dr. Mills April 24, just one week before the meeting of the Congress. He has regained all the movements of the extremities on the affected side, although he has not full strength in the affected limbs. The muscular sense, especially in the lower extremity, is still somewhat impaired, as would be expected from the tissue lost by the encroachment of the growth.

Dr. Wm. G. Spiller made a careful microscopical investigation of the growth. He classes it as an endothelioma, and believes that it probably originated in the walls of the blood-vessels.

Dr. Dercum said that, having observed the patient personally, he thought too much credit could not be given Dr. Mills for the brilliant and satisfactory result.

Dr. Walton spoke of an elderly man whose symptoms began with tremors in the wrist, followed by paralysis in the arm and leg, the latter being of the spastic variety.

Clinical Study of the Reflexes —Dr. Joseph Collins read this paper. It was desired to ascertain the physiological nature of the tendon-reflex phenomena and to find out their association with muscle tone. The writer concluded that muscle tone and the tendon reflexes were closely associated. In fact that the tendon reflexes were due to muscle tone. The greater the tonicity, as determined by the tonometer, the greater was the tendon reflex.

Dr. S. Weir Mitchell alluded to the reinforcement of knee-jerks with literary references and lauded the work of the American neurologists. Muscle reaction in its different manifestations was likewise discussed.

Dr. Sachs dissented from the view held by Dr. Collins that muscle tone had anything to do with the character of the tendon reflex. That they might depend on some other common factor could not be denied.

Dr. Knapp and Dr. Spiller spoke in the closing part of the discussion.

SECOND DAY—MAY 2D.

Adiposis Dolorosa —Dr. F. X. Dercum read this paper and presented microscopical findings. The patient was a woman, fifty-one years of age, a native of Ireland. Family history revealed nothing abnormal. She was well until forty-nine years of age. Alcoholic excess was noted. En-

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largement of the arms, and shooting pains in both shoulders, the side and chest, most marked in the upper arms, were primary symptoms. No thickening of the skin nor was it adherent to surrounding tissues. Swelling did not involve the muscles. Quantitative and qualitative changes in the muscles and forearms, while there was diminution of cutaneous sensibility. There was loss of knee-jerks, but no alteration of gait. The face was pale and likewise the mucous membrane. The skin was dry; the mind was not affected, and the hair was dark and fine. Examination of the eyes showed retraction of the visual field. Test of urine and blood negative; no leucocytosis. For eleven years the patient was under observation. There were nodules present, and the abdomen, hips, thighs, and legs below the knee were noticeably enlarged. Involvement of feet and hands came last. Vomiting, often containing blood, would come after severe attacks of pain; spells of dyspnea and bronchitis accompanied her symptoms. Cardiac trouble was present, which ultimately resulted in death—fatty degeneration of the heart—in connection with adiposis dolorosa. At the necropsy, there was no hair on the pubes nor in the axilla; the intestines were distended with gas, but with the exception of fatty infiltration there was nothing abnormal. Microscopic examination revealed nothing of importance, but the muscle of the heart was found to be very friable and of yellowish color, with marked change in the muscle itself. The subcutaneous tissues, spinal cord, peripheral nerves, thyroid gland and pituitary body were all examined. The nerve-fibers were atrophic and markedly diminished. In the dorsal and cervical regions of the spinal cord there were present certain changes. Neither the brain or pituitary body presented any alteration. While the thyroid gland was not weighed, it was found to be abnormally small. There was no colloid material. A theory presented was that the thyroid gland being deranged, certain abnormal substances were brought into the circulation

Dr. Burrin in discussion said that he had made an autopsy and examined a case of the same character, with a new growth of the pituitary body. This was purely accidental, as a diseased pituitary body in his opinion would not cause deposits of fat. In his case the thyroid was undoubtedly affected with an interstitial neuritis within the muscles. Some of the voluntary muscles-fibers were also degenerated.

Dr. Putnam referred to a patient with progressive muscular dystrophy and congenital blindness which happened in the same family.

Anatomico-Cytological Relationship of the Neurone to Disease of the Nervous System.—A discussion on the neurone theory was opened by Dr. L. F. Barker. He referred to the units in the nervous system and the neurone theory was dealt with historically. In 1891 Waldeyer collated evidence supporting the view and gave to the nerve-units the name "neurones." The neurone doctrine presented nothing more than the cell doctrine applied to the nervous system, until it was proved that the integral parts of a single cell are the axis-cylinder of a nerve-fiber and its end ramifications; before this it was impossible to apply the cell doctrine intelligently to the nervous system. The theory of contact is not an integral part of the doctrine of nerve-units or neurones, and as to the retraction theory it has never had any adequate basis. "The studies of Apathy and Bethe are regarded as extremely important as bearing on the intimate relations which exist between the nerve-centers, they do not interfere in any way with the retention of the units themselves."

The Pathological Changes in the Neurone.—Dr. W. G. Spiller then presented the pathological side of the problem. His propositions were: Is the neurone affected by disease, that is, can the cell-body become diseased and die without the existence of the axone? Does the disease of sensory neurones affect the motor neurones? A neurone becomes diseased to what degree? Should an axone be cut, there would be alteration and perhaps death to the cell-body in which the axone arises. It was further proposed that an axone is only partially dependent on the nerve-cells for vitality. As soon as there is a cut-off of the blood-supply the portion deprived of circulation will die. Radiographs were shown of certain pathological changes in the brain. He found alteration of the nerve-cells in a removed Gasserian ganglion, but in the sensory tract there was no change. The entire neurone has a tendency to undergo alteration when it becomes injured or diseased.

The Neurone Doctrine and Therapeutics.—Dr. B. Sachs took up this important subject in the discussion. There is promise of a general revolution in the conception of nervous disease by the advent of the neurone theory. There is still a question whether it has been beneficial in defining the causation and development of certain diseases of the nervous system. The nervous system is a series of contiguous, not continuous, units; in this nerve-unit, composed of the cell-body, with its dendrites, the nerve-fiber or neuraxon and the terminal tufts, the cell-bodies produce a trophic influence over the entire neurone. Before we could appreciate the value of the neurone, the trophic influence of the cell-body in its relation to the nervous system had to be discussed. Tabes dorsalis is a disease of the direct sensory neurone. The sensory fiber is the seat primarily affected whatever the poison may be that is circulating in the body. The ganglion-cell would not be diseased unless there was something wrong with the peripheral stimuli conveyed to it. Sachs thought that the time had not yet come when the doctrine could give us clear-cut ideas as to therapy.

The Physiological Significance of the Size and Shape of the Neurone.—Dr. H. H. Donaldson presented interesting data regarding the study of the neuronic elements in the white rat. In these animals the examination of the cell-bodies from the spinal ganglion was made. The ganglionic cells become progressively larger. The sciatic nerve of

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the white rat at birth does not contain a medullated fiber; there are no medullated fibers, central or peripheral. The medullary sheaths begin to appear during the first six or eight days, and their appearance about the axones in the first case is a very rapid process.

In Dr. Putnam's opinion the idea that the cell-body is the receptacle for the storage of anything particularly standing for the function of the nervous system as a whole should be abandoned. He thought the term is very often used "in books on clinical medicine of the storage of memories of the cortex in the brain."

It seemed to Dr. Longdon that to start now to criticise the neurone doctrine and neurone discovery or hypothesis is very much like criticising the architecture of a building of which the plans are not yet drawn. He was of the opinion that in regard to the neurone doctrine, anatomically it was of great assistance.

In the opinion of Dr. Van Gieson the neurone theory needed no defense.

The term neurone in the opinion of Dr. Mills had done harm rather than good in the teaching of the new doctrine in this way, but he thought there could be no doubt that the neurone theory must stand, there has been demonstrated a certain degree of interdependence of nerve-cells.

Dr. Dercum thought it was best to wait until there was more complete knowledge on the subject, until the details of the relationship of the neurones to each other had been ascertained.

With the neurone doctrine, Dr. Collins said, the profession is dealing with facts, not theories. A valuable point brought out was the necessity of using the nerve-cell as represented by the neurone and not speaking of the nerve-cell as meaning the cell-body. In the future this would be productive of good results.

The pathological, physiological and anatomical relationship of the neurone theory were gone over by Drs. Thomas, Smith and Angell.

Dr. Sachs, in closing, said he did not want to be understood as being pessimistic; he was simply anxious; even in the neurone theory there is some limitation.

Dr. Barker's conception of the neurone was not purely morphological; it is based just as much on physiological and pathological results as on morphological. There is a tendency to make too great a distinction between the morphological and physiological concepts.

THIRD DAY—MAY 3D.

Clinical and Anatomical Analysis of Cases of Diffuse Myelitis.—Dr. James J. Putnam's case of pernicious anemia was very manifest. The doctor did not think that it was the result of accidental vascular lesions, but that it is a distinct disease with clinical and anatomical characteristics. There was, in this case, numbness of the extremities, with cachexia, ending with softening of the cord. The lesions occur in the foci; the nerve-root zone is unaffected, and the lesions are referable alone to the spinal cord. The indications of anemia are very common, and in these cases they are universally present. In his second case of pernicious anemia, there was great improvement in the blood, the blood-count having reached 5,000,000, where previously it was but 3,000,000. However, there was a continuation of the spinal symptoms.

Dr. Langdon, in discussion, said that two groups of pernicious anemia were to be noted; one did not have spinal degeneration. He had followed two cases of marked pernicious anemia and had tested them but a short time before death, and there was not any evidence of spinal symptoms. There was in his own practice a woman who had a spleen which reached as far as Poupart's ligament and to three inches to the right of the umbilicus. There was no appreciable functional alteration upon careful examination, while her nervous symptoms were exceedingly dense. This patient presented likewise an anemic appearance. In the first case of pernicious anemia the patient had mucous colitis; it was interesting to note the association between the state of degeneration and the condition of the blood.

Brachial Plexus Neuritis.—Dr. Morton Prince reported a case of section of the posterior spinal roots for relief of pain in a case of neuritis of the brachial plexus; in which there was cessation of pain in the affected region, and later the development of Brown-Séquard paralysis in the area and pain in other areas as result of laminectomy in a man who received a Colles' fracture of the left wrist and paralysis of the right arm by being struck by a train. The paralysis affected the muscles of the forearm and pronators, rendering the arm useless from the shoulder down. There was pain in the forefinger, back of the wrist and also in the thumb, while sensation over the lateral areas was diminished. Operation was undertaken for the relief of intense pain, but it was not performed on strictly neurological principles. Another operation, however, was successful for the purposes for which it was performed. Before the operation and a little over a month after the accident, there were areas of anesthesia and analgesia over the radial aspect of the hand, thumb and forefinger, which extended upward over the same aspect of the arm. Subsequently severe pain developed in the back of the neck and this, it was thought, might possibly have been caused by injury to a nerve at the operation. The patient could not support himself and his leg was spastic. In the right foot, there was extreme coldness. The patient is very anxious to have his arm amputated, as it is paralyzed from the shoulder down, and this has been promised. The date of the operation was October 20th, the injury having taken place about fifteen months or a year and a half before. Dr. Prince further said that there was extreme atrophy of the muscles, especially of the deltoid. The cause of the present pain about the shoulder-joint is due to the fact that the muscles of the shoulder-joint and of the arm hang down and drag on the shoulder.

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In discussion, Dr. Meyer expressed the opinion that physicians were again considerably at sea as to the clinical and anatomical corollations of the Brown-Séquard paralysis, inasmuch as Brown-Séquard, in his last work, said that he was obliged to reverse his view concerning the subject, since on cutting the posterior root he had obtained the Brown-Séquard symptoms complex, and that when making a second hemisection lower down, after the Brown-Séquard symptoms had been produced, he was able to reverse the whole picture in the posterior segments of the body. It was a question whether the Brown-Séquard paralysis was the product of a blood-clot. Dr. Prince had never seen a laminectomy performed for any purpose of this kind without feeling that there is some possible danger of the production of a blood-clot.

Revised Interpretation of the Central Fissures of the Educated Suicide's Brain Exhibited to the Association in 1894.—Dr. Wilder presented charts and drawings of the brain of a suicide, who, previous to his death, had, in writing, willed his brain to Dr. Wilder. Shortly after he killed himself by a pistol-ball. The first ball striking about the middle of the forehead was deflected and did not result in death. He shot himself fatally, however, in the right temple. The striking point was his persistency to end his own life. The case was of exceeding interest, not only from a medico-legal standpoint, but also from an anatomical one in relation to the location of the fissures of the brain. Dr. Wilder went over the topography of the encephalon and gave his reasons for change of view of his interpretation of the central fissures.

Dr. Meyer said, in speaking of the interpretation of the fissures of the brain, that at times we often fail to find Betz's cells, while in certain parts of the paracentral lobule down to the corpus callosum Betz's cells are found.

Dr. Charles K. Mills gave a note of warning in reference to arriving too quickly at conclusions with regard to the duplication of fissures; he had seen a great many brains in the last twenty years, and he had seen an appearance of the duplication of the central fissure, although not as marked as in Dr. Wilder's case. The conclusion ought not to be arrived at that duplication of the main fissure like the central fissure was present, until other possibilities are excluded.

Malaria Presenting the Symptoms of Multiple Sclerosis.—Dr. William G. Spiller read this paper. The patient was a sailor and it was thought that he was not likely to be exposed to malaria. His health was good until he had a chancre in 1890. Two years later he lost power in the right side of his body. It returned a month subsequently. In 1895 he complained of headaches, vertigo, and a feeling of drowsiness. In the same year there was loss of power in the left side of the body, but from this he recovered. He stood unsteadily when resting on the right foot, and could not stand alone on the left foot on account of ataxia. Death came in September, 1899. At the autopsy an enlarged spleen was observed. The diarrhea, which had been severe before death, was thought to be malarial in character. There was an unmistakable, but moderate, sclerotic condition of the cord, but no degeneration of the spinal cord. There were hemorrhages in the brain and symptoms of disseminated sclerosis. There was intention tremor.

Dr. Mills said that he would not attribute the symptoms in a case like this necessarily to toxemia, but would rather consider the possibility of small hemorrhagic foci as the cause of symptoms.

The idea of malarial toxemia causing the symptoms described by the author is rather startling, but not, it must be confessed, beyond the realm of possibility.

Multiple Sclerosis With Autopsy.—Dr. Charles W. Burr and Dr. McCarthy described the case of an electrical engineer. The autopsy showed big patches of sclerosis affecting the spinal cord. The optic nerve was greatly degenerated, and in the acute patches there was extreme proliferation of the connective tissue surrounding the blood-vessels.

A Few Reconstructions of Parts of the Nervous System.—Dr. Adolf Meyer presented pathological specimens of white rats. He believed that the plates he used were less fragile than the wax plates. Dr. Charles K. Mills thought they were very good in teaching the structures and the organ. He thought, that by this method, the teacher could readily point out and the student comprehend the parts very quickly.

Two Cases of Tumor of the Spinal Cord.—These were reported by John Jenks Thomas. The first case referred to was a woman, twenty-one years of age. There was censory and motor paralysis and likewise paralysis of the sphincter. There seemed to be no pain, and the patient apparently remained in the same condition for thirteen years, except for an outbreak of mental trouble, from which she recovered. Death resulted from exhaustion, bed-sores, diffuse nephritis and chronic cystitis. There was observed at the necropsy a tumor of the dura, in the mid-dorsal region, which had completely compressed the cords beneath it. The tumor was composed of cells which were endothelial in character. The cords showed a destruction of nervous structure, which was replaced by overgrowths of neuroglia. In the second case there was an intra-medullary glioma in the cervical regions, in a boy of six years. The symptoms developed after a slight injury, beginning with pain in the right hand and arm, the left forearm being congenitally absent. There was pain in the shoulder and rotation of the head to the left. After death the autopsy showed a glioma of the whole of the cervical enlargement of the cord, with hemorrhage. On microscopic examination it was found that the tumor was a cellular growth. Sudden death came from hemorrhage into the tumor. The case was unusual because of the rapid course from the time of the first development of the symptoms, and because of the youth of the patient.

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REVIEWS.

Lehrbuch der klinischen Hydrotherapie für Studierende und Aerzte. Von DR. MAX MATTHES, a. o. Professor und Direktor der mediziinischen Poliklinik an der Universität Jena. Gustav Fischer, Jena.

THE author here presents in typical German fashion a text-book on hydrotherapy founded on a number of years' experience in practical demonstration and lecturing to the general practitioner in Stintzing's clinic at Jena. At the present time hydrotherapy needs no special apostle; its merits are acknowledged by most, and would be by all, were it not for the eccentricities of some of its devotees.

In the present volume the subject matter is discussed under three heads: General Considerations, Technic of Hydrotherapy and Special Hydrotherapy. The first portion is especially thorough and valuable, analyzing as it does the influences of heat and cold on the different tissues of the body. The technic of baths, packs, douches, etc., etc., is systematically treated and the small details of application carefully expounded. The portion on special treatment is, from a practical point of view, very valuable. Here the application of hydrotherapeutic procedures to disorder and disease of the different organs is especially extensive and the specialist, as well as the general practitioner, can derive much benefit therefrom.

The work is not over large, is well written, the illustrations are ample, although not many, and the systematic mode of treatment is exemplary.

Elements of Clinical Bacteriology. For Physicians and Students. By Dr. ERNST LEVY, Professor in the University of Strasburg, and Dr. FELIX KLEMPERER, Privat Docent in the University of Strasburg. Second Edition, Revised and Enlarged. Authorized Translation by Augustus A. Eshner, M.D. W. B. Saunders, Philadelphia, 1900.

THIS book represents, according to its authors, an attempt to group the result of bacteriologic investigation from the clinical point of view. Needless to say, in such good hands the object attempted has been successfully attained. Few manuals will give the general practitioner a more practical, or at the same time a more thoroughly scientific idea of the points where modern bacteriology touches clinical medicine. The subjects in which this second edition has been improved and enlarged serve to bring out very fully the practical character of the work. Recent observations with reference to varieties of the diphtheria bacillus and the pseudodiphtheria bacillus and their occurrence in healthy throats are especially brought out. The tendency of the pneumococcus to produce other lesions besides characteristic inflammation of the lung and especially its occurrence in skin-abscesses and phlegmonous processes is insisted on. The chapter on botulism gives a good review of what is known at present of the bacteriology of poisoning by meats. Recent work on the tetanus bacillus and its toxins and the effect of antitoxin make another modern feature of the book.

The translation has been very well done and the American edition has been distinctly improved by the addition of illustrations.

The American Year-Book of Medicine and Surgery. Edited by GEORGE M. GOULD, M.D. Volume II. Surgery. W. B. Saunders, Philadelphia, 1900.

THE volume of the year-book relating to medicine was reviewed some time ago. The present volume contains an excellent review of the surgery of last year. We are glad to note that the abstracts from the literature of surgery are more nearly up to date than is the case in the medical volume. References in this are as late as November so that the progress for the year is very fairly represented.

The collection of the statistics of operations for the radical cure of hernia shows how much improvement has taken place of recent years bearing on the safety of such operations. In the hands of skilled operators the mortality of these operations is now probably less than one per cent. in uncomplicated cases.

In addition to surgery the present volume includes obstetrics. It is interesting to note that all of the recent literature condemns vaginal douching before labor, unless there already exists a distinctly purulent discharge or some intra-uterine manipulations are to be performed. There seems to be almost a consensus of opinion that when labor-pains are severe the administration of an anesthetic, especially of chloroform, shortens the duration of the labor, spares the woman fatigue and exhaustion, adds to the effectiveness of uterine contractions, quickens the progress of labor and prevents shock.

In the subjects treated in this volume the year-book is a very practical reflection of the progress of medicine and is calculated to be of great service to the busy practitioner.

Diseases of the Genito-Urinary System. By EUGENE FULLER, M.D., Professor of Genito-Urinary and Venereal Diseases in the New York Post-Graduate Medical School, etc. The Macmillan Company, New York, 1900.

IN the preface of this book Dr. Fuller states that, although there are a number of works on genito-urinary diseases, nearly all of them have either not been written by a single hand or have been written from a purely venereal, or dermatological, rather than from a surgical standpoint. The present work is intended, then, to be a mirror of genito-urinary practice from the standpoint of the surgical specialist in venereal diseases. This object is very commendably accomplished. The tendency generally in the book is not to give many and sometimes contradictory opinions, but to state simply the author's practice in the treatment of venereal affections. Certain chapters deserve special commendation. As

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might be expected, the review of the subject of seminal vesiculitis is very well done. To Dr. Fuller is due much of our present knowledge of the affections of the seminal vesicles and their treatment. A very practical idea of what symptoms are caused by affections of these organs and how much can be done for their relief is given in a concise and very practical way. The chapter on the hypertrophy of the prostate and its treatment contains a full review of the present status of prostatic surgery. A very good idea of what may be accomplished for prostatic symptoms by palliative treatment is also given. For the radical treatment by removal of the prostate the author's own method is recommended. He removes the enlarged gland from within the bladder after a suprapubic incision and an incision through the base of the bladder with specially-constructed, serrated scissors.

The chapter on sexual neuroses receives a much more conservative treatment than might be expected at the hands of a professed surgeon. Dr. Fuller does not believe that these neuroses often depend on some nearby focus of disease which can be removed by surgical interference. While this is sometimes the case, too many surgical operations have been done on the strength of supposed reflexes that really never existed. On the whole, Dr. Fuller's book is a most satisfactory work on a difficult specialty, the constantly varying aspects of which require frequent consultation of the latest authorities.

Imperative Surgery. By HOWARD LILIENTHAL, M.D., Attending Surgeon to Mount Sinai Hospital. New York: The Macmillan Company, 1900. $4.00.

THE appearance of a book on surgery with so novel a title is in itself bound to attract attention, and, if it be further said that the treatment of the subject is equally original and novel, a wide publicity of this merited work ought to be its lot; for it is quite a relief to read a book on surgery, selected from the maelstrom of surgeries now in the book-mart, the author of which has succeeded in tearing himself away from their mimicked conventionalities and who tells his readers a live surgery born of the school of exigencies and free from flourishes.

To paraphrase the preface, the *raison d'être* for this work is to reach those of the profession who have indulged in long distance surgery, but who are called upon in emergency to execute an operation at short range. This book ought, therefore, to find most favor with the hard-pressed, extra-urban physicians, which class collectively is engaged in doing the "greatest good to the greatest number." To the surgical neophyte entering on his term as hospital interne and to the enterprising hospital graduate this is an inestimable book of reference. It should not be implied that this "Imperative Surgery" is a "First Aid to the Injured." It is more than an emergency surgery, since it treats of conditions calling for some deliberation before operation. So concise, unequivocal and straightforward is the style that it inspires confidence to follow the advice. The directions are very practical, yet free from empiricism, and theoretical arguments appear only to elucidate diagnosis or technic.

The illustrations, very vivid photographic reproductions and some few drawings, are all original and harmonize with the text. In this connection two omissions occur to us; one is an illustration of the localization of the cortical centers, the other is a diagrammatic chart of the elective points of ligation of vessels.

There might be occasion for discussion on points in themselves mooted, but which do not impair the validity of this "Imperative Surgery," *de facto* an excellent clinical surgery.

In conclusion, the publishers deserve commendation for the artistic make-up of the book, which is printed in large type on heavy, sized paper, with a wide margin.

BOOKS RECEIVED.

The* MEDICAL NEWS *acknowledges the receipt of the following new publications. Reviews of those possessing special interest for the readers of the* MEDICAL NEWS *will shortly appear.

TRANSACTIONS OF THE AMERICAN DERMATOLOGICAL ASSOCIATION. Twenty-third Annual Meeting. Held in the College of Physicians, May 30-June 1, 1899. G. T. Jackson, M.D., Secretary. The Rumford Press, Concord, N. H. 1900.

ESSENTIALS OF DIAGNOSIS. By Drs. S. Solis-Cohen and A. A. Eshner. Saunders' Question Compends, No. 17. Second Edition. Revised and Enlarged. Illustrated. 418 pages. W. B. Saunders, Philadelphia. $1.00.

A HANDBOOK FOR NURSES. By Dr. J. K. Watson. American Edition. Dr. A. A. Stevens. Demi 8vo., 413 pages. W. B. Saunders, Philadelphia. $1.50.

THE PATHOLOGY AND SURGICAL TREATMENT OF TUMORS. By Dr. N. Senn. Second Edition. Revised. 8vo., 718 pages. Illustrated. W. B. Saunders, Philadelphia. $5.00.

THE MEDICAL DISEASES OF CHILDHOOD. By Dr. Nathan Oppenheim. 8vo., 653 pages. Illustrated. The Macmillan Company, New York and London.

TRANSACTIONS OF THE TWENTY-FIRST ANNUAL MEETING OF THE AMERICAN LARYNGOLOGICAL ASSOCIATION. Held in the City of Chicago, Ill.

MANUEL COMPLET DE GYNÉCOLOGIE MÉDICALE ET CHIRURGICALE. Par Dr. A. Lutand. 8vo., 712 pages. Illustrated. A. Maloine, Paris.

DISEASES OF THE GALL-BLADDER AND BILE-DUCTS, INCLUDING GALL-STONES. By Dr. A. W. Mayo Robson, assisted by Farquhar Macrae. Second Edition. 8vo., 313 pages. Illustrated. William Wood & Company, New York.

LEHRBUCH DER KLINISCHEN HYDROTHERAPIE. Für Studierende und Aerzte, von Dr. Max Matthes. 8vo., 410 pages. Illustrated. Gustav Fischer, Jena. Eight marks.

CHEMISTRY AND PHYSICS. A Manual for Students and Practitioners. By Drs. W. Martin and W. H. Rockwell. 8vo., 374 pages. Illustrated. Lea Brothers & Co., Philadelphia and New York. $1.50.

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ORIGINAL ARTICLES.

TREATMENT OF MEMBRANOUS COLITIS.[1]

BY W. H. THOMSON, M.D.,
OF NEW YORK;
PHYSICIAN TO ROOSEVELT HOSPITAL.

IT is to be hoped that but few physicians will be called upon to treat a case of membranous colitis at the outset of their career, for if so they will be apt to think that they have made a serious mistake in the choice of their life-calling. The sanguine expectations with which they left college that success in practice is sure to follow good training and earnest endeavor are likely to be disappointed in every particular and in the most trying fashion whenever a patient comes with a story of a chronic habit of passing long shreds or membranous casts of the bowel.

The experienced clinician has learned to note early in eyes and forehead signs of head trouble, and about the nostrils and the upper lip signs of thoracic derangement, but when the corners of the mouth go down in woebegone expression he knows that inward grief reigns somewhere in the abdomen. But of all physiognomies a case of membranous colitis wears the most settled aspect of confirmed wretchedness, which the young physician, confident in his resources, meets with assurances of coming relief. But his subsequent experience is apt to be much as follows: For some days his remedies seem to be working well. Then the old pains in the bowels return, now with a sense of general distress pervading the abdominal cavity, best described by the colored woman's term, "misery." Then follows a more localized pain, either griping or cutting or sickening, which is explained as due to wind, for often various rumblings precede or accompany it. The abdominal parietes frequently become very tender to palpation in places, but no dependence can be placed upon such local signs, for, at the next visit they are somewhere else, although as bad as ever. Meanwhile the patient develops a decidedly varied train of nervous symptoms. The mind refuses to think or to do anything but feel conscious of distress. Unbearable headaches, neuralgias and pains here and there, palpitation, sinking spells and weepings make up the story, until, finally, the bowels with exhausting pains empty themselves of quantities of long strings or strands of mucous masses, mixed with the feces or following them, sometimes with a few streaks of blood and rarely with a small amount of pus. Then, for a while there is comparative quiet, but sooner or later, the old story is repeated with every accompanying variety of dyspeptic symptoms, referred now to the stomach and now lower down, and each time explained by this or that offence in diet, by the late bad weather, or something of that character.

In no other complaint is the morbid self-consciousness characteristic of abdominal affections more marked. The patient can neither think nor talk about any other subject than his many woes. Therefore, by reason of the great frequency, as well as variety of the accompanying nervous symptoms, many writers have been led to regard the disease as primarily a neurosis, or, at least, to speak of a nervous colitis. I regard this view of its pathology as analogous to that of the philosopher who admired the wisdom of the Creator in causing large rivers to flow past large towns. A colon, the lining of which has fallen into the condition which such a secretion indicates, presents wide tracts of surface for the absorption of all kinds of excrementitious poisons into the blood. It is these poisons, which, circulating everywhere where there are nerves, produce all the symptoms referable both to the splanchnic and to the cerebrospinal tracts, which make up the multiform nervous features of the case, and offer a sufficient explanation of them without needing the intervention of any vague primary nervous lesion.

Moreover, while nervous lesions or irritations do sometimes produce trophic changes, nevertheless no instance can be cited of chronic fluxes from mucous membranes having any such origin. Chronic bronchorrhea and chronic gleet certainly are never primarily neuroses, although asthmatic spasm may complicate the one or an irritable stricture the other. The truth is that, while in membranous colitis the patient may be reduced to a state of pitiable emotional weakness, the objection to the view that this indicates a nervous etiology is that it leads us in a wholly wrong direction when the subject of treatment comes into consideration. How independent of any antecedents of a neurotic kind this affection may be is illustrated by the following case:

Dr. H. A., a middle-aged physician in active practice, had always enjoyed excellent health until he accepted a staff appointment in the volunteer service during the late Spanish War. While on cavalry duty at a camp in Virginia, which required his being for hours in the saddle, in July, 1898, he began to suffer from an intense irritation referred to the rectum. This measurably subsided for a time, but returned in November and steadily grew worse during the following winter. He then had his sphincter stretched

[1] Read before the Section on Medicine of the New York Academy of Medicine, February 20, 1900.

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by a rectal specialist, but with no benefit. His symptoms were recurrent attacks of severe tenesmus which tormented him, especially at night, preventing sleep, and which were accompanied by discharges of large quantities of mucus. He lost forty pounds in weight and was obliged to give up practice. He came to me for treatment in May, 1899. Examination showed the rectal mucous membrane to be deeply congested, but there were no signs of ulceration. After six weeks of recourse to remedial measures, which will be mentioned later, he was relieved of his urgent symptoms, so that he regained his weight and was enabled to resume practice, but every now and then, he has had temporary relapses and has passed complete casts of the bowel of greater or less length. These in turn ceased, but in January, 1900, he reported another return of tenesmus and reappearance of the membranous casts. He has again improved, and I have hopes that like many other cases his relapses will grow fewer and at last cease altogether. But what I would note here is that, although he began to develop all the train of nervous symptoms above referred to, there can be no doubt that none of them had any primary relationship to his trouble, but were purely secondary. The beginning of the disease was clearly due to a local irritation excited by local causes, acting first on the lower end of the intestinal tract, and gradually extending upward. In like manner, one of the worst cases for nervous complications which I have met was in a young married woman who dated her disorder from prolonged riding in the country on a bicycle.

Now, what does pathological anatomy reveal as to the nature of this disease? Unfortunately, it must be admitted that autopsies show us more what this intestinal disorder is not, rather than what it is. Thus, with beginners, it is very natural to surmise that extensive tracts of ulceration will be found in the colon. But generally nothing of the kind is discovered, although the morbid process has continued severely for months and years until the patient succumbs to it. Instead the colon is found considerably dilated, its walls thin and atrophied, with here and there patches of simple congestion, toward the lower end clumps of small, thin veins, not collected into polypi nor resembling hemorrhoids, are found, and evidently these are the source of the bright red blood which is often mixed with the mucous discharges, but even they do not show that their coats have been opened by an ulcerative process. Microscopic examination of the discharged membranes themselves shows nothing but a structureless material which is albuminous in composition, but containing no fibrin even in the most consistent patches, and in typical samples wholly devoid of pus, or leucocytes, or of other ingredients of inflammatory exudates, the cells present evidently being the epithelial cells of the large intestine which have undergone fatty degeneration.

The clinical symptoms also are quite unlike those of ulcerative colitis, for obstinate constipation, as a rule, both precedes and accompanies membranous colitis, while diarrhea as uniformly accompanies ulcerative colitis.

There are several forms of secondary membranous colitis, on the other hand, which have nothing in common, excepting the formation of membranous patches, with the disease which we are considering, either in their etiological or in their clinical characters. Thus, in some cases of chronic Bright's disease, the patients lie comatose for days and pass loose movements in bed. After death the colon, as well as parts of the small intestine, are found lined with thick, diphtheritic-looking patches, while, because such membranous exudations never appeared in the dejecta, their existence was demonstrated only on the post-mortem table. On the other hand, the presence of both albuminuria and of hematuria is not uncommon, as temporary symptoms in true membranous colitis. In two patients of mine I have noticed these signs of direct irritation of the kidney repeatedly, but I do not place much store upon them, for other signs of progressive renal disease have remained absent, although these patients have been under my continuous observation for several years. I ascribed these renal symptoms to the entrance of the bacillus coli into the blood through the diseased intestinal wall.

A case of true membranous colitis, such as we have been considering, has no real resemblance to a catarrhal colitis or to a catarrhal inflammation of any kind. What leads to a confusion between this especial affection and others, the seat of which is in the large intestine, is the presence, more or less common to them all, of colonic symptoms. Just as any form of arthritis, whether traumatic, rheumatic, gouty, gonorrheal, pyemic, etc., will cause very similar symptoms of pain on movement of the joints, with redness, swelling, etc., so that the most diverse varieties of arthritis can be confounded in diagnosis and even in nomenclature—witness that impossible hybrid, rheumatic gout—so every serious process in the colon will occasion abdominal distress, tenesmus, or "bearing down," or pain before and during defecation, etc., and it is only when we have set these colonic symptoms aside and direct our attention to the conditions which they present, as separately characteristic of each form, that it becomes plain that in true membranous colitis we have a specific affection of the large intestine, the pathology of which is undoubtedly distinct from all other colonic disorders, with, in all probability, as specific an etiology.

From the clinical side some of the etiological factors appear to be direct mechanical irritation of the rectum, as by horseback or bicycle-riding, as already mentioned in two of my cases. Similar to these are cases traceable to pressure on the rectum by uterine fibroids, and it is well to examine carefully in women for the presence of such possible causes. In my opinion, however, by far the commonest cause is the prolonged retention of hardened scybala. A history of pre-

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ceding habitual constipation of years' standing is the rule in these patients, and, hence, the greater frequency of the complaint in women. It is striking to find, when we carefully investigate the antecedents of most of these female patients, how evidently they have been subject to fecal retention for months at a time, and there is nothing which favors the formation of stationary hard lumps of feces in the weakened and distensible colon as the habitual use of certain laxatives and cathartics. One of the largest masses of the kind which I have ever had to deal with proved on examination to consist mainly of fig-seeds. Once that this irritation awakens the morbid process in the colon, it seems to change the nutrition of the intestinal wall in its own special way, with a definite tendency for this initial local change to spread in the wall either upward or downward, according to its first seat and, finally, to induce a permanent perverted secretion, which becomes very difficult to alter or to cure.

As to treatment, the first indications are to relieve the colonic symptoms proper, as they may be termed, that is, symptoms which are more or less common to all diseases of the colon, as pain and stiffness of the joints on movement are common to all varieties of arthritis. Thus, nothing is so soothing to the tenesmus, the cutting and bearing-down pains, and the general abdominal distress, as free irrigation of the colon with normal saline solution, to which may be added oil of peppermint, five drops to the pint. Three to five gallons, at a temperature of 100° F., may be employed once in twelve hours, and given by Kemp's rectal irrigator, according to the printed directions which are furnished with this simple and serviceable instrument. The relief which this hot douche affords is often described by the patients as very great, and as enabling them to sleep at night better than any other measure. Care must be taken, however, that all the fluid is returned, lest any quantity retained may afterward provoke a return of pain, thus causing it to act as an enema. By a little practice, however, this may be avoided. Great quantities of mucus are thus dislodged and washed away, but it frequently happens that after the irrigation has been employed, the patient subsequently has a painless movement which consist of a large amount of simple mucus without shreds or membrane. Sometimes I have found benefit from using at the end of the irrigation a gallon of the water in which from 60 to 100 grains of resorcin has been dissolved, being careful that it is all expelled afterward. Once a week a pint of clean, hot water with 30 to 40 grains of silver nitrate may be used instead of the resorcin. Unfortunately, this irrigation is not curative, as it is in many cases of chronic catarrhal or chronical ulcerative colitis, for, although it serves the valuable service of eliminating the complication of direct colonic irritation which so often undermines the patient's health and, by so much, aggravates the local processes of the disease, yet it does not deal with the nutritive change itself in the intestinal wall, but only with some of its effects. Nevertheless, it should not be omitted from the system of measures which should be adopted for the more or less prolonged methods of treatment needful in every essentially chronic disease.

The next question is, Have we any medicinal remedies which can be expected to be of service in changing the disordered nutrition of the intestinal mucous membrane? I believe that we have one such remedy and that is small, and, what I may call alterative, doses of castor oil. I have had patients report that the relief afforded by this medicine has been most unmistakable from its first administration. I prescribe it in an emulsion, of which each tablespoonful contains from one-half to one dram of the oil, preferably one-half at first, to be taken either half an hour before meals or an hour after meals. This should be continued for months together, and only intermitted when it seems unmistakably to increase the patient's dyspeptic symptoms.

The nitrate of silver in quarter-grain doses, combined in pill or capsule form with nine grains of turpentine resin, and taken three times a day, is sometimes of much service, although not as uniformly as in chronic catarrhal or ulcerative colitis, in which complaints a quarter of a grain of opium is added. To enable the turpentine to dissolve and not pass the bowels unchanged, it should be pulverized well with licorice powder and a drop or so of liquor potassæ added to each capsule. After the silver has been taken for six weeks, the sulphate of copper in quarter-grain doses can be substituted for it.

Meantime, membranous colitis is a complaint particularly characterized by general disturbance of the digestive functions of the whole elimentary tract. This is a result and not, as many deem it, a cause of the colitis; but there can be no doubt that the consequent maldigestion and fermentation of the ingesta become of themselves a complication of the original complaint. The stomach is apt to be dilated and the small intestine the seat of disturbed innervation and a perverted secretion. Five grains of resorcin in solution with tincture nucis vomicæ, half an hour after meals, constitutes a good prescription for the gastric symptoms, to be supplemented by ten grains of sodium benzoate and ten grains of bismuth salicylate in capsules, an hour after each meal, as intestinal antiseptics. We should, however, from the first bear in mind the probable dependence of the disease itself on chronic constipation, and against this I would limit myself to the employment of salines exclusively. From one to two drams of phosphate of soda with ten grains of salicylate of soda should be given every morning in a tumblerful of water as hot as the patient can sip it. After a time, the same quantities of sulphate of magnesium may be substituted. Daily massage of the bowels, particularly of the tract of the colon, is also to be highly recommended. We need not fear arousing any inflammatory process by such manipulation, for we are not

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dealing with inflammatory disease. Once in a while, however, we do find a region which always remains tender to palpation and in such cases a local blister often is beneficial.

The diet of such patients is important to consider, if only from the fact that many of them most unwarrantably reduce it from fear of this or that article disagreeing with them, according to their remembrance of some severe attack after they partook of it, until they finally live on only some very few and insufficient forms of food. We may simply exclude beans, corn, spinach, and the woody vegetables, along with oatmeal among the cereals, and then encourage the patients to eat meat, poultry, eggs, zoolak or kumyss, peptonized milk and most cereals, with instructions not to care what will happen. In some cases pancreatic emulsion is of marked service.

Finally, bodily movement and out-of-door exercise is beneficial on general principles. Repeatedly, we find a summer change to the country do more good than anything else, for fresh air is the best remedy for constipation that can be named, and its effect is not lost in disease.

Recent writers, notably Hale White, have recommended whenever everything else fails, to give the colon a prolonged rest by the establishment of an artificial anus in the right flank. Some recoveries have been reported from this procedure and I see no reason why in otherwise hopeless cases, it should not be tried.

THE SANITARIUM TREATMENT OF INCIPIENT PULMONARY TUBERCULOSIS AND ITS RESULTS.

BY E. L. TRUDEAU, M. D., M.Sc.,
OF SARANAC LAKE, N. Y.

MANY years ago circumstances placed me in a position where the problems connected with tuberculosis were of necessity daily before me and afforded ample opportunities for the study of the disease in its clinical, scientific, and humanitarian aspects. The long time required to obtain a cure, or even an arrest, of the disease by the climatic and open-air method, and the necessary expenses it entailed, when added to the loss of income incident to months of enforced idleness, seemed to put the practical application of this method of cure beyond the reach of the majority of individuals who have to earn their own living. An institution that would offer this opportunity and a return to a life of usefulness to working-men and women at a moderate cost seemed an urgent necessity, and induced me to attempt the establishment of such an institution and put the methods so long advocated by Brehmer to a practical test.

In view of the present widespread agitation on the subject of tuberculosis, I have thought at this time some of the experiences and results obtained during the past fifteen years while developing the first sanitarium in America for the treatment of pulmonary tuberculosis in persons of moderate means might prove of interest.

In looking back it seems curious to note, while every new consumption cure advocated has at once been eagerly taken up and tested, how slowly the rational teachings of Brehmer in regard to the treatment of the disease came to be generally accepted even abroad, while in this country the value of his methods is only now beginning to be realized.

I will not weary you with a detailed description of the Adirondack Cottage Sanitarium, its history, its struggle for existence, or its growth and development, but will merely touch briefly on a few points which relate to the class of patients it tries to cure or relieve, call your attention to a few features of the treatment, and lay before you the results obtained during the past fifteen years. My acknowledgments for valuable assistance and support are due to the late Dr. Alfred L. Loomis, to Dr. E. G. Janeway, Dr. Walter B. James, Dr. H. P. Loomis, and Dr. E. R. Baldwin, who for many years have examined without remuneration applicants for admission to the institution.

The two requisites for admission are that the patient should be unable to pay the usual prices charged in the region, and that he should be in the incipient stages of the disease. Five dollars a week has been the uniform charge to all alike; no graded rates or private patients; no charge for medical attendance; the deficiency in the running expenses being made up each year by subscriptions. It is a pleasure to me to state that during the past fifteen years not only has money enough to meet this deficiency been always forthcoming, but that the growth and development of the institution has been rendered possible by what has been put aside each year over and above the amount necessary to meet the running expenses, the plant paid for and entirely free from debt, and that enough has been saved to accumulate a Free Bed Fund of $18,000 and an Endowment Fund of $150,000.

Experience has shown most forcibly that the success of institutional treatment depends on the early detection of the disease. It has been found that 68 per cent. of the truly incipient cases were discharged as apparently cured, while only 11 per cent. of the advanced and none of the far-advanced cases recovered. We must recognize more and more the evident limitations of physical examination alone, and the dictum so often assumed that the disease is not present if nothing can be detected by this method seems to me utterly untenable. The pretuberculous stage of tuberculosis, so much written about, is nothing more than the first stage of tuberculous infection before physical signs have appeared. In the first stages of miliary tuberculosis of the lungs there are no appreciable physical signs, and no physical examination can be expected to detect the onset of tuberculous infection in the glands or deep tissues and organs of the body.

In attempting to make an early diagnosis in

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obscure cases, of late I have occasionally been assisted in reaching a conclusion by a careful X-ray examination, and, where it was necessary, by the tuberculin test. I have had on several occasions a practical demonstration that an examination with a good X-ray machine and the fluoroscope may in early cases be of service in affording additional evidence of the presence of the disease. The diaphragm is seen to be higher on the suspected side or its excursion diminished on one or both sides, and in many cases a slight shadow can also be detected at the site of the suspected lesion. Of course, this may occur as the result of any other pathological condition which tends to diminish the expansive action of the lungs and impair their transparency, such as areas of pneumonic infiltration, bronchitis, etc., but if the history and rational signs are carefully considered these may generally be excluded.

If additional and more conclusive evidence is required, the tuberculin test should be applied. By a resort to this test a positive opinion one way or the other can often be reached, and if the initial dose does not exceed one milligram the constitutional disturbance caused by it is slight. No injury to the patient has in my experience ever resulted from such a test. During the past two years I have seen several cases in which a slight impairment of health, without cough, physical signs, or appreciable rise of temperature, being the only symptom present, a diagnosis of tuberculosis was made possible by a study of the fluoroscope picture, and, if this proved negative the application of the tuberculin test; the correctness of the diagnosis being confirmed later by the appearance of physical signs in the chest, of hemoptysis, or of cough, expectoration and bacilli. One case which I saw during the earlier part of last summer illustrates these points. Repeated physical examinations by experts of undoubted skill had been negative; the X-ray picture was inconclusive; there was no cough or expectoration, the only symptoms present being some loss of weight and strength, and a temperature which occasionally touched 99.5° F. in the evening. The patient was a physician and insisted on a diagnosis, therefore I advised the tuberculin test. Two milligrams gave a typical reaction. He obtained a year's leave of absence and went West. A few months later he wrote me he had gained twenty pounds, and that no one believed he had ever had tuberculosis. Recently I received a letter from him stating that one morning, after some unusual physical exertion the previous day, he had spit a teaspoonful of blood, and that on being examined by a physician he had been told that there was a slight pleuritic friction-sound behind the right scapula.

The scope of this paper will not allow me to discuss the details of institutional treatment, of which the main factors are an invigorating climate, an open-air life, rest, coupled with a careful regulation of the daily habits, an abundant supply of nutritious food, with the exhibition of such tonic and restorative measures as may be indicated in each case. I think, however, the favorable influence of rest on the course of a tuberculous process is not generally recognized. Surgery has taught us that activity of a part affected with tuberculosis always tends to aggravate the disease and to render it progressive. A tuberculous joint may often be cured by simple immobilization, while it will go on to destruction if the patient be allowed to use it at will. In advanced tuberculous ulceration of the larynx, where it becomes necessary to perform tracheotomy, the rest afforded to the parts by the operation is at once followed by a remarkable improvement in the disease in the larynx. Murphy's proposed treatment, which consists in putting the

FIG. 1.

The Main Hospital.

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diseased lung completely at rest by introducing nitrogen gas into the pleural cavity, is another proof of the recognition by the surgeon of the value of absolute rest.

Absolute rest, as long as it is taken in the open air, is the best measure at our command to reduce the pyrexia of tuberculosis, to conserve the patient's energies, to abort the activity of the process, and to encourage the formation of fibrous tissue about it. The objection that a patient cannot digest if he does not exercise does not seem generally to be supported by experience, as most of the patients, while living out of doors and kept absolutely at rest, eat and digest an amount of food that would suffice for laboring men.

Specific methods of treatment have been very little used at the Sanitarium with the exception of tuberculin,[1] which has been employed with the utmost care for the past eight years, in selected cases, in order that some evidence as to its healing or immunizing influence, when given under the most favorable conditions of environment, might be obtained. Tuberculin treatment is apparently injurious rather than beneficial in all those forms in which the disease is actively progressing, or where there is any marked fever or constitutional impairment. It is evident that the addition of more toxin to an organism already unable to cope successfully with that produced by the disease would not be likely to be beneficial. Such treatment would find a parallel case in an attempt to produce immunity by injecting more diphtheria toxin in the case of a child with diphtheria already overwhelmed by the poisonous substances elaborated by the germs.

The exhibition of tuberculin has been confined at the Sanitarium to apyretic cases, or those that were nearly so, if well nourished and with moderate lesions, the diagnosis of the disease being confirmed in every case by a microscopical examination of the expectoration. The treatment should be begun with a minimum dose, very gradually increased, and with lengthening intervals, so as to avoid the production of constitutional symptoms, except, perhaps, occasionally a slight rise of temperature, and continuing the injections for several months, until no general reaction is produced even by large doses; the nutrition of the patient being closely watched and the injections continued only so long as the weight is kept up and the nutritive condition remains at a high standard. In other words, the aim being to produce repeated local reactions with but slight or no general reaction and gradual habituation to the tuberculin toxin. The doses and the interval between them should be carefully adapted to the needs of each case, and the best results by this method are obtained only with care, patience, and skill. Time is also an important element and my experience has seemed to confirm that of Petruschky in so far as the necessity of repeating a course of injections after an interval of several months, when susceptibility to reaction has returned. The reason for this is obvious when we reflect that all tuberculous foci in the body are not at the same stage of their development when the treatment is begun. When applied with care, avoiding the production of violent reaction and high fever, I have never seen any evidence that would lead me to think that the treatment had proved injurious at any time to the patients who were subjected to it.

Time will not allow me to discuss the various opinions held as to the nature of tuberculin reaction, or the question of artificial immunity in this disease, but I will merely lay before you, so far as it can be done by figures, the results of this treatment to the human subject under the most favorable conditions of environment, in so far as they relate to any apparent curative influence of the injections and to any immunizing effect as shown by the prevention of relapse. I have selected only the cases treated since 1894, as before that the details of the method were less understood, and it was often only temporarily applied. Since 1894 fifty-six cases have been treated by this method. It has been possible to follow the results in only fifty. Of these I have taken only the incipient cases, so as to avoid as much as possible errors of classification, although the results in the cases classed as advanced were proportionately somewhat more favorable.

There were 24 incipient cases and of these 20, or 83 per cent., were discharged as apparently cured. For comparison, if we take the last 113 incipient cases treated at the Sanitarium by climatic and open-air methods alone during the past three years, 82, or a little over 72 per cent were discharged as apparently cured; so it would appear from these figures that tuberculin had had some favorable influence on the results. Some little allowance, however, must be made for the fact that, even though all these cases were classed as incipient, those treated with tuberculin were selected with especial care. In order to procure some evidences as to the immunizing effect of this treatment and its power to prevent relapses, an attempt has been made to trace fifty apparently cured, tuberculin-treated cases and, for comparison, fifty untreated cases which corresponded as exactly as possible in point of classification on admission and discharge, and which were in the institution at the same time and remained the same length of time, have been studied with the results shown in the following tables:

[1] Koch's original tuberculin was used at the Sanitarium for a year after the announcement by this investigator of this new method of treatment. From that time, however, all the tuberculin has been produced at the Saranac Laboratory, and has been modified according to the indications which the latest researches on this subject seemed to call for. For several years a tuberculin made like Hunter's modification B. was principally in use. The general plan of separating the albumoses from the culture fluid laid down by Hunter was adopted, except that no heat was used at any time in the process.

Before making an extensive trial of Koch's new TR tuberculin, it was thought best to study this substance in the laboratory. The researches made there by Dr. E. R. Baldwin and myself showed that samples of TR, as it was first put on the market, contained living tubercle bacilli, and for this reason the substance as then produced was considered unsuitable for the treatment of human tuberculosis. Dr. Baldwin has also recently shown that, although the directions accompanying the bottles of the new TR tuberculin state that it contains ten milligrammes of solid substance, if the water and glycerin be evaporated only about four milligrammes of solid substance remain.

During the past year Hahn's tuberculo-plasmine made after the method of Buchner and Hahn, of crushing the bacteria with excessive hydraulic pressure, has been used in a limited number of cases.

Treated.

Not traced		3
Well; returned to work in former surroundings	29	41
Well; living out-of-door life in other good climates	7	
Well; not working	5	
Relapsed (living)		1
Relapsed (dead)		4
Died insane		1
Total		50

Not Treated.

Not traced		3
Well; returned to work in former surroundings	21	36
Well; living out-of-door life in other good climates	10	
Well; not working	5	
Relapsed (living)		6
Relapsed (dead)		5
Total		50

Of the 50 tuberculin-treated cases discharged apparently cured at varying periods since 1891, 3 could not be traced and 41 remain well to this date. If we take 50 untreated patients who were also discharged apparently cured at the same periods of time, and leave out three to correspond with untraced tuberculin-treated cases, 36 up to date are known to have remained well. These figures show a slight percentage in favor of the tuberculin cases, but, unfortunately, are not perhaps sufficiently marked to be in any way conclusive.

My experience with tuberculin treatment at the Sanitarium thus far has led me to believe that, when carefully applied in suitable cases, it has proved apparently free from any danger, and that it has seemed to have some favorable influence in bringing about healing of the lesions, probably by inciting the formation of fibrous tissue. In this it resembles Landerer's treatment by injections of cinnamate of soda, this substance producing a local and general leucocytosis and stimulating the formation of fibrous tissue around the tubercle and thus tending to limit the disease. That a certain reaction of the tissues, as evidenced by vascular hyperemia and leucocytosis, is capable of favorably influencing a tuberculous process, is shown in the cure of peritoneal tuberculosis by laparotomy, which occurs as the result of the hyperemia of the tissues brought about by the traumatism of the operation and their exposure to the air.

The immunizing effect of tuberculin as observed in the human subject would appear to be more uncertain both as to degree and duration, and artificial immunity is still the unattained goal of experimental research. While the evidence, therefore, as presented by the cases treated with tuberculin at the Sanitarium is somewhat favorable to this form of treatment, it is restricted as yet to a very limited number of cases, and it must be admitted that these are usually such as are likely to recover under climatic and open-air methods alone.

FIG. 2.

The Inslee Cottage.

The exact results obtained at the institution by the combined climatic and sanitarium treatment are difficult to express in figures, because they are generally influenced by the class of cases accepted. With advancing familiarity with the disease and improved methods of diagnosis, our standards have also steadily altered, so that what would have been considered an incipient case fif-

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teen years ago would be classed as an advanced one to-day in most instances. Furthermore, the term "cure" can also be used only in a relative sense, time as measured by years being the only criterion of cure. Of late the results obtained have been better than formerly and this is due, no doubt, not only to improvements in methods and plant, but to the fact that more really favorable and early cases are available than formerly.

In making out the yearly reports of the institution, I have adopted from the first and printed in each report the following classification, imperfect as I feel it to be, as the best I could devise to express the classes of patients admitted and the results obtained:

Definition of Terms Employed.

1. *Incipient.*—Cases in which both the physical and rational signs point to but slight local and constitutional involvement.

2. *Advanced.*—Cases in which the localized disease-process is either extensive or in an advanced stage, or where, with a comparatively slight amount of pulmonary involvement, the rational signs point to grave constitutional impairment or to some complication.

3. *Far Advanced.*—Cases in which both the rational and physical signs warrant the term.

4. *Apparently Cured.*—Cases in which the rational signs of phthisis and the bacilli in the expectoration have been absent for at least three months or who have no expectoration at all; any abnormal physical signs remaining being interpreted as indicative of a healed lesion.

5. *Arrested.*—Cases in which cough, expectoration, and bacilli are still present, but in which all constitutional disturbance has disappeared for several months; the physical signs being interpreted as indicative of a retrogressive or arrested process.

FIG. 3.

"Taking the Cure" in Winter.

An idea of the best results obtained thus far can perhaps be gained by a glance at the following table, copied from the last three annual reports, 1897-98-99, provided the figures are considered together with the classification adopted. Patients who have remained less than three months are put in a separate class, as little can be accomplished in the way of permanent results while in the institution for so short a period.

A glance at the table shows the following: Out of 323 patients who remained an average of 8¾ months in the institution, 113 of which were classed as incipient cases, 151 as advanced, and

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59 as far-advanced, 109 were discharged apparently cured, 104 with the disease arrested, 73 improved, 31 unimproved or failed, and 6 died. This gives the best results as yet attained at the sanitarium; *i.e.*, 33 per cent. of apparent cures, and 32 per cent. of cases in which the disease was arrested.

TABLE.

Patients who Remained an Average of 8¾ Months.

Condition of patients when admitted	Apparently cured	Disease Arrested	Improved	Unimproved or failed	Died
Incipient Cases, 113	82=72.566%	25	4	2	0
Advanced " 151	27=17.88%	67	43	13	1
Far " " 59	0	12	26	16	5
Total, 323	109=33.746%	104	73	31	6

If we study the gross results in the 1200 patients admitted during the past fifteen years, the result is as follows:

Twenty-three per cent. were discharged as apparently cured; 56 per cent. were discharged with the disease arrested or much improved; 19 per cent. were discharged stationary or unimproved; 2 per cent. died in the institution.

I am quite aware that cure in tuberculosis is but a relative term and that time is the only test of cure; a test which becomes more and more discouraging as the period of its application lengthens and we become more familiar with the relapsing nature of the disease. Nevertheless we have attempted to determine as far as was practicable the permanency of the results obtained, extending over a period of fifteen years to date. Of the 1176 patients discharged alive about one-half are still living, and one-half of this number have been heard from as being perfectly well. This proportion of one-quarter of the whole number covers the entire fifteen years, and the percentage, of course, improves each year as more early cases are admitted. The permanency of the recoveries depends necessarily a good deal on the environment to which the patient returns. If he is obliged to go back to a laborious life or an indoor occupation he is much more likely to relapse than if it is possible for him to return to a good climate and an outdoor existence.

The education which the patients receive at the sanitarium as to the nature of their disease and the methods to be relied upon in combating it is of the utmost value to them, enabling them to preserve their health and avoid relapses after they have left the institution; and this education is not limited to themselves, but is imparted by them to the great mass of people with whom they come in contact.

In addition, the attempt to cure pulmonary tuberculosis by institutional treatment and the practical demonstration which it has given of the possibility of accomplishing this in many cases have cast a ray of light on one of the darkest problems which confront medical science and have proved an object-lesson which has, perhaps, not been without influence in creating the present popular demand that the State supplement private philanthropy in the establishment of similar institutions under its control.

THE PREVENTION OF SCARLET FEVER.[1]

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IN few other diseases are preventive measures so productive of good results as in scarlet fever. Although a far more serious disease than measles and most of the other infectious diseases, its spread may be more effectively controlled. No one will allege that the measures necessary to the attainment of that end can be carried out without encountering difficulties. They are many in number and very complex and demand on the part of the practitioner much thought and perseverance. But they are effective in preventing the spread of the disease, and the conscientious physician will not regard the difficulties encountered as an adequate excuse for their non-enforcement. When we consider the high mortality of scarlet fever and the grave sequelæ which are common in those who survive, we are forced to feel that neglect of preventive measures is little short of criminal. Nevertheless important details of prophylaxis are not infrequently ignored or completely forgotten by the attending physician. Certain measures are sometimes rigidly enforced while others of equal importance are neglected. The disease may thus be spread broadcast by leaving a single loop-hole unguarded. It is the design of this paper, therefore, to call attention to certain details in management and prevention upon which error is frequently made. Time forbids an exhaustive discussion of the whole subject of prophylaxis of scarlet fever and no such effort will be made.

The isolation of children known to have been exposed to scarlet fever may not be strictly necessary, but close observation is an important measure of prevention. It is true that the disease is not contagious during the period of incubation. It is doubtful, indeed, whether it is contagious before the appearance of the eruption. Evidence has recently been presented to show that children in contact with scarlet-fever patients for several hours after the initial vomiting have not contracted the disease. Still, it is difficult to rid oneself of the fear that there may be exceptions to the rule and that exposure during an early stage may in some cases be followed by serious results. The fact, however, that as a rule contagion is not active until the eruption has developed is an extremely important one and renders isolation during the latter stages far more effective and, hence, of greater importance. We

[1] Read before the New York Academy of Medicine, April 5, 1900.

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have thus in scarlet fever a distinct advantage over measles, for in the latter disease the period of contagion begins two or three days before the appearance of the eruption.

As the period of incubation in scarlet fever is short and somewhat variable, every child who is known to have been exposed should be isolated. Following the general law that the more severe the disease, the shorter the incubation, the period of incubation in scarlet fever is rarely more than four days. In my own experience, a period of about two days has been the most common and I have seen a case in which it was but little over twelve hours. In nearly 90 per cent. of the cases it is between two and six days. Although a feeling of security is warranted after four days, no person, who has been exposed, should be considered safe for less than a week.

The question of sending the other children away from home is often a serious one. The objection is frequently made that they may carry the disease to other places, or the parents are unwilling to have them ill away from home. These are valid objections if the fears are well founded. The decision must rest largely on the time of the exposure. If the exposure occurred before the appearance of the eruption, there may be little fear that the disease has been contracted. If exposure occurred during the stage of eruption, the probability of illness will be great. If the patient is isolated soon after the initial symtoms have appeared, other children in the family are very unlikely to have taken the disease from him.

Whatever may be thought of the propriety of isolation during the period of incubation, there can be no doubt of its importance after the first symptoms have appeared, for the rash, together with the possibility of infection, appears often within twelve hours after the invasion. Four symptoms, when occurring in combination, are extremely suspicious of scarlet fever, *i. e.*, vomiting, fever, rapid pulse, and sore throat. The vomiting, as a rule, occurs suddenly with little or no nausea. It is forcible and sometimes projectile in character. It may occur but once or may be repeated several times during the first twelve hours. In my own experience, it has been a constant symptom.

The temperature rises rapidly and naturally ranges high in scarlet fever. In mild cases it may be found at the first visit not above 101° F., but it is frequently 103° or 104° F. I once examined a child whose sister had become ill with scarlet fever the day before. The temperature was normal and apparently she was in usual health. I had scarcely left the house before she was seized with vomiting and I was at once recalled. On my return, in little more than an hour, the temperature was 102.5° F. and the throat was decidedly red.

I have come to regard an abnormally rapid pulse as a symptom of considerable importance. I would by no means call it pathognomonic and possibly not diagnostic; but it is certainly very suggestive. A pulse of 150 at the outset is not unusual.

Sore throat is usually complained of early. At the first visit, as a rule, the hard palate and pillars of the fauces will usually be found red and congested. Sometimes the peculiar exanthem of scarlet fever will be seen thus early. This consists of numerous minute dark red macules on a reddened base, scattered over the hard palate. Frequently, however, at the outset nothing but diffuse redness will appear. Patches of pseudomembrane may occasionally be seen at the first examination but they are not common before the third day. The tonsils may be smeared over with a tenacious exudate closely resembling pseudomembrane. There is not infrequently a nasal discharge, which may consist of clear tenacious mucus or muco-pus. In mild cases the throat symptoms at the outset may be slight.

I would not be understood as considering the symptom complex of vomiting, fever, rapid pulse, and sore throat as affording positive evidence of scarlet fever. They are sometimes seen in other conditions in young children, notably acute indigestion and *la grippe*. They are, however, always suggestive of scarlet fever, sufficiently so, in fact, to warrant the isolation of the patient until their significance has been more fully demonstrated. The appearance of an eruption following within twenty-four hours after such an onset in the vast majority of cases is sufficient to establish a diagnosis. The practitioner will frequently see, however, cases of a mild type whose early diagnosis is extremely difficult. Even in mild cases there is usually an onset of vomiting with slight fever and sore throat. During the past few months, most practitioners in New York have undoubtedly seen cases of *la grippe* accompanied by an eruption which simulated that of scarlet fever. The fever, sore throat, flushed face, and perhaps nausea, followed after a short time by a rash, have made up a picture very suspicious of scarlet fever. While it is possible that cases of real scarlet fever have been considered as influenza, it is certain that there has been a considerable number of cases of *la grippe* with an eruption.

The strawberry tongue is not an early symptom of scarlet fever. The strawberry tongue is an especial favorite with young doctors. They see it frequently and are always alarmed by it. A white tongue with red spots is not characteristic of scarlet fever in the slightest degree but is seen in every-day practice. The term should be restricted to the red tongue with enlarged papillæ which follows a coated tongue on the third or fourth day of the disease. Flint was among the first, if not the first, to describe this peculiar appearance of the tongue, which he did in the following words: "The tongue early in the disease is generally coated. While the coating remains, frequently the papillæ projecting through it have the appearance of numerous red points; the surface of the tongue looks as if cayenne

pepper or red sand had been sprinkled over it. This is seen in other affections. Another appearance is quite distinctive of scarlet fever. In the progress of the disease, the coating exfoliates, leaving the surface of the tongue clean and reddened; and the papillæ being enlarged, the appearance is strikingly like that of a red strawberry. The strawberry-like tongue is a pathognomonic symptom; it is peculiar to this disease. It is often but not uniformly present."

The strawberry is not a white fruit with red seeds, but a dark red fruit with a rough surface. It is taxing the imagination, therefore, to apply the name of strawberry to a white tongue, and totally untenable to lay stress on such a tongue in the early diagnosis of scarlet fever. I am well aware that several prominent writers have done this, but I scarcely need to remind you that an error once started on the rounds of medical literature is very hard to kill. It will sometimes creep into the work of the most careful of writers.

The patient having passed through the acute stages of the disease, the question arises as to how long he is capable of infecting others, and, as a corollary, how long he should be isolated. It is commonly stated that the most infectious period is during the height of the eruption. This is undoubtedly true. There is then a decline in the infectious power, which is again followed by a period in which that power is renewed. The latter occurs during the stage of desquamation. The patient is dangerous to others as long as the slightest desquamation continues on any portion of the skin. The duration of this period is extremely variable, and the most common error, perhaps, consists in being guided by a fixed number of days. The conventional forty days is only to be regarded as approximate. It is rarely too long. Desquamation is liable to persist in small areas of the body after it has disappeared from other portions. It is frequently very difficult to determine in such cases whether we have to deal with a local patch of scarlatinal desquamation or with eczema brought about, perhaps, by irritation, the result, it may be, of overzealousness in bathing and anointing. These circumscribed areas are most commonly found about the flexures of the joints.

Desquamation is liable to persist about the finger-nails after it has disappeared from every other part of the body. There can be no more dangerous place for such persistence, for the scales are liable to fall on any article which the patient may touch and may hence be conveyed to a distance. There are innumerable authentic cases of conveyance of the disease through letters written by desquamating hands. I have myself known of such an occurrence, the letter coming several hundred miles through the mails. The hands and fingers should be particularly scrutinized before the quarantine is raised.

The question of secondary and tertiary desquamation is interesting from the standpoint of prophylaxis. The scales from these desquamations are certainly less infectious than those of the primary desquamation. It is the belief of some observers that they are not capable of conveying the disease. There seems to be authentic evidence, however, that even in tertiary desquamation the scales have been infective and it is the part of wisdom, therefore, to regard every such case as unsafe. Until a specific germ is discovered, these questions must be determined solely by clinical observation and there will be, as a necessary result, a greater or less degree of uncertainty.

Desquamation is not the only factor by which the period of isolation is to be determined. Purulent discharges certainly contain the infective principle of scarlet fever. After it, no child who is still suffering from otitis, chronic pharyngitis, purulen coryza, suppurating glands, or a purulent discharge of any kind, should be allowed to mingle with others. Holt refers to a case in which the opening of a post-scarlatinal empyema in a surgical ward was followed by an outbreak of scarlet fever, and to another case in which the disease was communicated through a purulent nasal discharge after eleven weeks. Ashby insists upon retaining all cases in the hospital for forty-two days and discharging none until desquamation is complete. Still, he has found that from 2 to 4 per cent. of such cases are infective.

These dangers have not been sufficiently recognized and as a result the disease has undoubtedly been communicated to thousands of children. A consideration of facts, as demonstrated by authenticated cases, proves the unwisdom of adopting any single period as necessary for the quarantine of scarlet fever. In many cases six weeks is ample and the patient may be released with perfect safety to others. In other cases he is almost as dangerous at this period as in the first week of the eruption. The rule should be, not a fixed number of days or weeks, but the time that is necessary for the disappearance of all desquamation and of every kind of purulent discharge.

The question of infection after release from quarantine has of late been the subject of some discussion in England, and an attempt has been made to prevent more fully what they there call "return cases." At the Monsall Fever Hospital of Manchester, for example, the following method has been adopted: Certain wooden pavilions are set apart as convalescent wards for scarlet-fever cases, no case being sent into these wards until six weeks have elapsed from the onset of the illness. Even then desquamation, as well as all purulent discharges, must have ceased. The convalescent children are encouraged to take exercise freely in the open air. I am unable to say how long they are retained in these wards, but the statement is made that since this system has been in operation there has been no "return case," although they were not uncommon before that time.

The question regarding the isolation of mild

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but undoubted cases of scarlet fever is frequently a trying one. In some of these, desquamation is very slight and there is no purulent discharge. It is undoubtedly a fact that the quarantine can be raised in a few of these cases in less than six weeks. Still the desquamation, even when slight, is liable to continue for a greater period than its intensity might lead one to expect, and these mild cases require more than ordinary precaution.

Grave errors are constantly being committed by physicians in making a diagnosis of German measles, roseola, or stomach rash, when the condition is in fact mild scarlet fever. Such diagnoses are sometimes more than errors; they are grave sins. It is through these mild cases that the disease is spread broadcast. Not only are such cases dangerous to the members of their own families but to others who come in contact with them in the most unsuspecting manner. Every doubtful case should be isolated until the appearance or non-appearance of desquamation aids in determining its true character. Reasonable parents do not object to such caution. There are few who do not prefer the trouble involved by temporary isolation to the danger of exposing other children. Unfortunately, parents are not always reasonable, and it is but justice to physicians to say that they are not in every case as gravely at fault as it might seem.

The question of school attendance immediately arises upon releasing a child from quarantine. The Health Board of this city wisely requires a certificate from one of its own inspectors before a child who has been excluded from school can be re-admitted. The system of school inspection now in force in New York cannot be too highly commended. Its value and importance are amply shown by the fact that last year there were excluded from the city schools 32 cases of scarlet fever, 133 cases of diphtheria, 253 cases of measles, 276 case of pertussis and 1627 cases of contagious eye-disease.

At present the means by which the New York schools are chiefly instrumental in disseminating scarlet fever is through the clothing of children who may have come from families in which the disease exists. It is true that children from such families are supposed to be excluded from school, but there are unquestionably many unreported and concealed cases, which thus become dangerous to others through mediate infection.

The question of the advisability of closing schools in the case of an epidemic of scarlet fever must be settled differently in different communities. In the country and in small towns, where the children will be separated from each other when the schools are closed, their closure may be an important measure of prevention. Moreover, in such communities the various families are known to each other. Illness is at once known and contagion guarded against. In large cities, on the other hand, the conditions are quite different, particularly in the crowded tenement regions. Here the children cannot and will not be confined to their homes, but will mingle with each other all day long. Closing of the schools will not prevent it. In addition to this, the daily inspection of the children in school is a great safeguard against the spread of disease. Under present conditions in New York, the closing of the schools for the purpose of preventing such diseases as scarlet fever and diphtheria would unquestionably produce a result quite the contrary.

The importance of hospitals for the treatment of scarlet fever and diphtheria is not yet fully appreciated by the profession. We have now in New York hospitals designed to meet every requirement in this direction. At the Willard Parker Hospital no case is refused because of inability to pay. It has unquestionably been the means of saving the lives of many children, not only of those suffering from the disease, but of others who would have been exposed had the patient been left in his home. More recently, the Minturn Hospital has been established to relieve a very urgent need. There are many people in a great city, able and willing to pay for treatment, who are so situated that isolation of infectious diseases cannot be enforced, or can be enforced only at great expense and trouble. Well-to-do people living in hotels, boarding houses, or apartments, or visiting relatives, have sometimes been placed in dire straits by the development in a child of scarlet fever or diphtheria. To such this hospital is a most beneficial institution. There, every advantage may be obtained, which can be afforded by cheerful and sanitary surroundings, trained nursing, and skilled medical attendance. The outlay is light when one considers the expense which necessarily accompanies a serious infectious disease. Should the parents desire, their own physician can attend the patient. A parent or friend may remain constantly with the child, being subjected only to the same rules regarding isolation and quarantine that are applied to all inmates of the hospital.

It cannot be denied that medical men through carelessness have sometimes been instrumental in carrying scarlet fever. No other disease is so frequently transmitted through the agency of clothing. Sputa, coughed out during examination, or scales adhering to the clothes may cause the disease in other children upon whom the doctor may be in attendance. I feel justified in making the statement that the practitioner should never visit a case of scarlet fever without wearing a gown. Such a gown can be made very cheaply of cotton cloth. It should be made to button closely about the neck and wrists and should be long enough to reach to the feet. When beginning the treatment of a patient with either of these diseases, one of these gowns should be taken to the house. It should be put on before entering the sick-room and should be hung up in the bathroom or other suitable place upon leaving. A cap to protect the hair is desirable, but not so necessary as the gown. Upon the termination of the case the gown can be thoroughly

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boiled and used again. The trouble and expense involved are thus trifling. In a considerable experience, I have never found a child or parent who objected to it. On the contrary, it inspires confidence in the physician as a careful man, and removes the possibility of his ever being charged with bringing the disease into the house, should its occurrence in one of his families be unexplainable. It is a safeguard both for the physician and his patients.

It goes without saying that the hands and face should be disinfected after every visit to a scarlet-fever patient. The same is true of the stethoscope, which should be used for all physical examinations of the chest. The tongue-depressor or any other instrument used about the throat should not be taken from the room. The doctor himself should not carry out the details of treatment farther than is strictly necessary. It is difficult for him to do so without danger of carrying the disease. It can only be avoided by more thorough disinfection than most doctors are willing to carry out. In few diseases is the importance of a qualified nurse greater than in scarlet fever. One should be secured wherever it is possible. Not only are the details of prevention and treatment carried out more thoroughly and satisfactorily, but the doctor is relieved of many duties which he should not be obliged personally to perform. The value of a competent nurse in scarlet fever can hardly be overstated.

The selection of the sick-room is of much importance. In tenement-houses and flats there is but little room for choice. The child should be placed in the front room and should never be allowed to remain in a middle room or dark room. The door in the hall should be sealed with strips of paper, as is done in fumigating. The door communicating with the rest of the apartment should be kept closed, and the children should be kept in the rear rooms, even if it is necessary to remove the beds from the intervening rooms. If possible, the other children should be sent away. If the parents are intelligent and faithful in obeying instructions, the spread of the disease may be prevented, even in a small flat, but it is very difficult and will require unremitting vigilance during its whole prolonged course. It is practically impossible if there is but one person to care for the sick and look after the well. To ensure any safety whatever, the nurse must be isolated, as well as the patient.

Whether the patient lives in a flat or in a house, the ease of preventing the spread of the disease is greatly augmented if there can be a third person to act as intermediary between the nurse and the person who has the care of the other children. To this person may be assigned the duty of carrying the food and various articles required by the nurse and of carrying away the soiled clothing and performing the numerous offices outside the sick-room. She thus needs to come in direct contact with neither the sick nor the well. In the houses of the well-to-do, where nurses are employed, a trusted servant may fulfil this office. It is a hardship for the mother to make a choice between the invalid and the other children, particularly if they be small, but the necessity of her doing so if of the greatest importance. The statement frequently made that the nurse should not eat or sleep in the room with the patient is entirely proper, if such an arrangement can be carried out. It is usually impossible, however, in any except well-to-do families, where a whole floor can be utilized. Where such an arrangement can be made, the conditions are the most satisfactory than can be devised. When a floor is not available, the room should be selected which can be most readily isolated and will at the same time be convenient and habitable for the attendants. Six weeks' confinement to a single room is a trying ordeal, and isolation during the last days of the period can be more strictly enforced if the room is cheerful and comfortable. While a room at the top of the house is for many reasons the most desirable, one on the floor below should be selected should there be no bathroom on the top floor. The passing to-and-fro to the bathroom will frequently undo all other efforts at isolation, not to speak of the additional labor involved. A most satisfactory arrangement is a back room on an upper floor opening into a bathroom, the latter having also a second door into the hall. Two doors thus intervene between the hall and sick-room. By placing a small gas-stove in the bathroom much labor is saved and isolation can be made complete. I have recently attended a case in a family of young children in which the sick-room was thus arranged and was but one flight up. All cracks and key-holes were covered with strips of paper, the room being thus hermetically sealed against the rest of the house, except for the passage through the bathroom. The disease in this family was limited to one child.

The hanging of dampened sheets before the doors is a measure of some practical value. It is not to be supposed that they can disinfect the air or destroy the germs, but they do prevent currents of air when the doors are opened and are a constant reminder of the necessity of care.

The preparing of one room for a sick-room in a house where there are children is a wise measure. Such a room is not infrequently found in modern houses and should be more common. It may be made as cheerful and as available for ordinary use as any other room. The walls and ceilings are painted or covered with washable paper. The floor is polished and covered with rugs instead of a carpet. The hangings are easily removable and there is no upholstered furniture. The furniture is of polished wood or white enamel and is made without carving or deep grooves. A room, thus arranged, can be quickly put into commission as a sick-room, and will greatly simplify the question of prophylaxis.

General inunction of the body is a most effective measure, both of treatment and prophylaxis. It may be begun as soon as the eruption

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has appeared and should be continued until desquamation has ceased. This method, however, will vary in different stages. During the stage of eruption before desquamation has begun, a simple bland oil is most desirable. Antiseptics can be of little avail and all irritating preparations should be avoided. Lanoline is one of the best of these or a mixture of equal parts of lanoline and cold cream. These preparations, however, are somewhat expensive. Vaseline, therefore, may be employed in their stead, and is no doubt the most common preparation used. Some of the cheaper grades of yellow vaseline are decidedly irritating to some skins. When itching and irritation of the skin is great, a five-per-cent. ointment of boric acid and vaseline is sometimes effective. Sponging with a solution of borax and water, followed by carbolized vaseline, will also give temporary relief. Carbolized vaseline, however, should not be used over large surfaces. It is true that absorption is not active through the healthy skin; but in scarlet fever we do not have a healthy skin, and it seems quite possible that absorption might occur. In a disease in which the kidneys are frequently involved, it is unwise to run any risk of introducing so irritating a substance as carbolic acid.

After desquamation has begun, the objects of inunction are quite different. The procedure then becomes a matter of prevention as well as treatment and the most important object is to soften and remove the scales, thus preventing their dissemination with the resulting danger of spreading the infection. It is the belief of many that the scales may be disinfected by adding antiseptics to the oily substance used for inunction. This seems somewhat doubtful. It is a point, however, very difficult of decision by clinical observation and must be settled at some future time by the bacteriologist. The general fact is at least positively settled that proper care of the skin during the stage of desquamation is one of the most effective means of limiting the spread of the disease. Antiseptics may be added to the ointment or oil used for inunction. The boric-acid ointment already referred to is one of the best. A two-per-cent. ichthyol ointment has its advantages but is objectionable to many patients because of the odor. Carbolic ointment may be used over limited areas. During this stage the inunction may be preceded by a bath or sponging with water at the temperature of 90° F. The water may be plain or it may contain a small amount of salt or borax. The use of an antiseptic soap is advocated by many practitioners, resorcin soap being, perhaps, the most commonly used.

Ointments or oils of disagreeable odor are objectionable. The appetite is frequently poor and the problem of nourishment is difficult. It is easy to increase this anorexia by disagreeable odors. A preparation having even a slight odor becomes perceptible when applied to the whole surface of the body. Such odors are often intensified when applied to surfaces not open to the air, particularly when fever or perspiration is present. This is the chief objection to be urged against the animal fats, like lamb fat, mutton tallow, or beef suet. The bacon rind, popular in some parts of the country, has the same objection and possesses no advantages. Lard has but little odor, but it is difficult to obtain it pure in the cities. It is unstable and quickly becomes rancid. Fats are prone to become rancid by being broken up into glycerine and fatty acids. The physician should always make sure as to the character of the preparation used for inunction. A rancid fat in a severe case of scarlet fever may cause great irritation and prolong the period of desquamation.

There are many other matters of importance in the prevention and management of scarlet fever. As stated at the beginning of the paper, however, it was not my intention to consider them all, but certain ones only, which are most frequently neglected by the general practitioner. Opinions will no doubt differ as to the relative importance of these details and some may feel that measures have been omitted which are as important as some of those which have been included.

It must be remembered that in scarlet fever we have not the sure basis of knowledge which we possess in diphtheria. Until a specific germ has been discovered and its life-history studied, we must rely on clinical evidence alone. We must, therefore, expect to find differences of opinion on almost every detail of pathogenesis, prophylaxis, and treatment.

THE STATE OF NEW YORK AND THE PATHOLOGY OF INSANITY.

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THE leading chapter in the century's history of the care and treatment of the insane in America will be the humane and progressive record of the Empire State. From the ward for lunatics in the New York Hospital in Colonial days to the recent "State-Care Act," New York has been abreast if not foremost in this eleemosynary duty to its dependents, as the sentiment of the time has indicated. The tardiness in providing for all the dependent insane by the State was more than compensated by the imperial measures which carried the State care policy into effect. The great movement was not a revival of sentiment, supported by the emotions, creating a name, and then dying from inanition. It came to stay and it has been sustained faithfully, becoming a fixed public burden, and in this closing year of the century having no real opponent in the Government of the commonwealth. "State care" has not been a name without other merit. Its purpose has

[1] Read before the American Medico-Psychological Association May 22, 1900.

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been realized in a remarkable degree. Remarkable in the fact that it is the only instance in the history of the States where the name has been merely an unrealized claim. There is to-day in the State of New York no acknowledged dependent insane person in an almshouse, penitentiary, jail, reformatory, or any place of custody other than a State hospital. Can this claim be made elsewhere? If so it is a glorious example of a fearless State Government following the precedent established by the Empire State. It is the antithesis of the shameful, cowardly, miserly policy of a wealthy State establishing almshouse-treatment of the insane by law; an example which should make its citizens responsible for it hide their faces from the Sun of Righteousness, who taught the doctrine of mercy and charity. "Inasmuch as ye have done it unto one of the least of these, my brethren, ye have done it unto me."

In carrying into practical effect the provisions of the State-Care Act, the supervisory body—the State Commission in Lunacy[1]—found it expedient to establish a basis of cooperation between all the hospitals and institutions in its Department. It was not only expedient but it was essentially requisite for the attainment of the great end in view—the most effective treatment and care of the insane in the most economical way. In addition to cooperation there must be a certain degree of uniformity in method and administrative practice. Not, take notice, in medical practice, for in this there was accorded the same freedom from interference and allowances which existed theretofore, or which now obtains elsewhere. If uniformity of therapeutics, personal treatment, classification or research, resulted in some degree, it came from association and not from direction. I can fearlessly appeal to the representatives of the Department, Superintendents of the State Hospitals, brother-members of this Association, who I am proud to refer to as the best representatives of psychiatric practice in New York, for a confirmation of this statement. It was the policy and practice of my predecessor, as it has been of the writer, to allow the widest scope within the limits of safety and the welfare of the patient, to individual effort and experimentation. Otherwise, progressive medicine would be a name only and dry rot an actuality. Thus, cooperation and a scientific franchise to hospital physicians has created a psychiatric practice in our State Hospitals which is unsurpassed, and which, I believe, will stand the test promulgated by a versatile neurologist, whose peerless imagination has been the delight of thousands in many editions and seven translations. However, it is well known that the prophetic and delightful parable painted in entrancing words by this masterful brother, was an actuality contemporaneous with his prophecy.

In investigation of the causes of insanity, in establishing the morbid anatomy of the brain, in pathological departments of hospitals for the insane, and in creating a special literature, New York has been a pioneer. The *American Journal of Insanity*, now in its fifty-sixth year, is the product of the Utica State Hospital in its earliest history. In his annual report for the year 1868, Dr. John P. Gray says: "I have long been convinced that the extensive field afforded by this institution for pathological investigation should be cultivated more thoroughly than could possibly be done by the ordinary medical staff." He called to the attention of the managers the importance of employing a profesional man of special attainments and skill in the department of pathology, to make microscopic examination of the nervous tissue, and to test the value of instruments of precision for diagnosis, "and such other pathological researches as might be deemed valuable to medical science and the public generally." In his report four years later, he gives a résumé of the work accomplished which appeared of sufficient importance to suggest legislative authority. A bill was unanimously passed the same year creating the position of special pathologist and providing for the equipment of the laboratory, which was accomplished with the aid of Dr. J. J. Woodward, then assistant surgeon, U. S. A. The following year Dr. Gray reports, "the results so far attained in this field of special investigation have fully justified the expectations we had formed of the value and importance to medical science and the public interests in recommending some years ago the organization of this department of research." There must be a number of those present who recall the fine technical work exhibited by Dr. Gray at several meetings of the Association about twenty-five years ago, as the product of the Utica laboratory. The experience at Utica and especially the causes which led to the decadence of the laboratory and finally to its extinction are worthy of consideration at this time, as they apply now, as they ever will, a lesson showing the mutual dependence of one department of medicine upon others in the scientific work of hospitals. The special pathologist at Utica for the first three years was a gifted physician, Dr. E. R. Hun. It was his work which created the law establishing the laboratory as a permanent institution. He was succeeded by Theodore Deecke, a philosopher but not a physician, a master of technic but ignorant of symptoms, a man jealous of his department, possessing scientific attainments of high order, but too little sympathy with the expression of insanity as witnessed constantly by the physicians of the staff. His work was admirable, but inanimate. He could show the morbid conditions, but could not relate them with the clinical facts, and as a consequence his work became a mechanical process and died from the same causes which will ever destroy values by the separation of clinical and pathological research. It is a lesson which should have been heeded. The work at Utica, however, was sufficiently impressive to mold into the organic laws of the four later State Hospitals, provision for a special pathologist. The privilege was accepted in only two of the hospitals and only for a short period.

[1] Hereafter referred to as the "Commission."

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The lesson taught at Utica was undoubtedly a restraining cause, and it was rather to the strict and almost to the prohibitive separation of the pathological and clinical departments that the other hospitals united all medical work in the regular medical staff. Some admirable researches were conducted by members of the staff, which in practical value exceeded all that was accomplished at Utica during the existence of the special department. Small laboratories of great comparative merit were earnestly worked by some of the hospital physicians from time to time. Had the minor and technical difficulties been overcome by capable instruction in these instances, the results might have been what we hope for but have not seen. The difficulties that are encountered by the hospital physician who wants to unite his clinical work with pathological research are almost insurmountable. Technic, in the interval between college and the evolution of a fixed point in view, leaves him stranded and he must begin at the bottom for his preparation. By the time he is prepared for good work there may come promotion and burial in administrative duties. The work he has done may be too immature for application, has failed of record, and is lost to his successor. Here and there may be some brilliant discovery in its incipient stage, but without persistent research it is soon buried in a mass of detail and lost to view.

With the cooperative spirit which was the hematin of the life-blood of the State-Care Act, there was created the desire to unite pathological research, then in a more or less active stage in a number of the State Hospitals, in a scientific center. The initial proposition led to quite active argument and no little opposition grounded on common sense and experience. Perhaps the most forceful argument against this movement—and experience has actually proved it prophetic—was the belief and the claim of several superintendents that centralization of research in a great central laboratory would dampen the ardor of individual hospitals, and especially of individual members of the medical staff, who would be debarred from working on original lines without the approval of the central laboratory or the supervising pathologist.[1]

It is regretted that the discussion on the merits and demerits of centralizing research, which preceded the creation of the Pathological Institute, failed of record except in a few instances. The remaining impression of its astuteness, its prophetic foresight and the results which might reasonably be anticipated, would make it eminently fitted to supplement this discussion. At that time and for several years, the hospitals had accomplished much practical laboratory work chiefly related with clinical problems, although but little of the finer technical work had been attempted. Whatever was accomplished was wholly due to the praiseworthy spirit of research of individuals who would sacrifice selfish and personal interests and comforts to attain the end in view; and it may be recognized as a rule with no exceptions that from such material has developed the scientist of the class who has made pathology what it is today. The history of pathological advancement shows that it has not been the machinery and organization created with methodical acumen from an unlimited treasury to which is due original discoveries, but to the solitary individual, whose very needs create a stimulant, who, perhaps, in his earliest efforts before the possible demonstration, would have been mocked by a scientific center into discouragement and silence. The inception of revolutionary discoveries seems possible only to the isolated worker who ignores and defies skepticism, and who is independent of cooperative assistance. A Koch, a Pasteur, and a Lister would never have been known if their primal theories had required for elucidation the approval of some directing scientist clothed with autocratic powers. Hence, it was maintained—and correctly, I believe—that centralized research would retard if not give the death-blow to original individual efforts, unless they accorded with the "menu" of research in the central office. It is not held, I desire to emphasize, that such untoward conditions necessarily ensue upon centralization, but human tendencies are universally alike and the laws of action require an exception if results other than those described are realized. My observation, at least, of the short experience with centralized research in New York sustains the claim that the State Hospital Laboratory will cease to be a coadjutor of the central laboratory, as first designed, unless cooperation is made a requirement by the Commission.

In the fifth annual report of the Commission, for 1893, the subject of a pathologist is referred to in the following words: "The Commission would recur to the importance and desirability of

[1] From the Eighth Annual Report for the year 1894 of the St. Lawrence State Hospital. "Closely associated with the clinical study of insanity is that of pathological and etiological research. It is maintained that these questions, mighty in themselves, could better be assigned to some separate department of the State service; and this is undoubtedly true if the State desires to add to its eleemosynary work that of scientific investigation. It may well be considered doubtful if the State Government will look favorably upon this additional burden. It is also questionable if the results that would be obtained would far exceed previous efforts in pathological work carried on in a distinct department at one of the State Hospitals at large expense to the State. The usefulness of a central (or common) laboratory for all the State Hospitals will depend wholly upon the personnel of its organization, and the same chances will thus have to be taken that each medical superintendent assumes in the appointment of his medical staff officers, with less chance of correcting errors. The temptation to make a central laboratory useful for the community in which it is situated, and for the individual in its organization, to the exclusion of distant institutions, will not always be resisted. It will also reduce, if not dispossess, the individual hospitals of laboratory work, which is one of the strong inducements to young medical men to engage in hospital practice for temporary periods.

"It is well to consider also that the best results in science have not emanated from public and paid work, but from voluntary efforts and frequently from obscure sources. The brains of men cannot be prodded to produce, like the soil, but must be stimulated by an interest that needs more than a departmental service to maintain. The technical work of a central laboratory may produce some beautiful results, as a fruit of exquisite technic, but conclusions based thereon will be thoroughly worthless, except in a combined study of the clinical aspect of the case. The physician who studies the cause and indications of disease from frequent observation of the patient is the only competent person to reach conclusions from the morbid anatomy that will be of any value to the human race. . . . . In the functions of chemistry, bacteriology, and microscopy, applied to clinical examination a central laboratory can give no aid except as an instructor. It is doubtful whether a central laboratory will be useful, except as a coadjutor to the hospital laboratory; and it is far better to maintain the latter in a state of efficiency, increase the medical force sufficiently to permit a greater measure of pathological work, and keep the several departments of disease research together.

"Peter M. Wise, M.D., Medical Superintendent."

appointing an experienced and competent pathologist who should act for all the hospitals of the State. . . . The Commission now has under advisement a proposition for the appointment of such a pathologist as soon as his selection and the arrangements for a suitable laboratory can be determined upon."

The discussion by the State Hospital Superintendents of the action contemplated by the Commission resulted, finally, in a united sentiment which was expressed in a resolution assenting to and approving of "the appointment of a pathologist of recognized reputation and qualifications, to be located in the city of New York, and preferably to be a teacher of pathology, the expenses to be borne by equal monthly payments from the funds of the several State Hospitals."

In the sixth annual report of the Commission, for 1894, it recommended "that provision be made for the establishment and maintenance of a pathological laboratory or institute, under the direction of an accredited and competent pathologist, which shall be a department of the State Hospital system, to be maintained primarily for the State Hospitals, but incidentally for the benefit of all the institutions for the insane, as well as for such members of the medical profession at large, especially alienists and neurologists, as may desire under proper restrictions to avail themselves of its facilities in their investigations of the anatomy, physiology and pathology of the brain and nervous system." It will be observed that the Commission had in view primarily the benefit of the State Hospitals. The laboratory was also to open its doors to all members of the profession desiring to avail themselves of its facilities. This was thoroughly impracticable as might well have been foreseen, for it gave an opportunity to divert the use of the laboratory to personal expedients. The director was fully justified in ignoring this proposed function.

In the report for 1895, the Commission announced the creation by statute of the "Pathological Institute of the State Hospitals," to be located in the city of New York, for the reason that besides being a medical center, there was located within a radius of sixty miles more than two-thirds of the insane in the State. It repeats the declaration that the Institute is established primarily for the benefit of the State Hospitals and "also to provide instruction in brain pathology and allied subjects for the medical officers of the State Hospitals, and to other members of the medical profession who may desire to avail themselves of the advantages afforded by this department."

During the year 1896, the Institute was located in the Metropolitan Life Insurance Building on Madison Square, and occupying fully the front two-thirds of the sixth story at an annual rental of more than six thousand dollars. The contention was that the location most central to the general hospitals, having an abundance of unobscured light, and sufficiently cool to permit work to proceed continually during the hot season was essential. In the following report (for 1896) the Commission announces the equipment and organization of the Institute, and sufficient progress "to demonstrate the wisdom of centralizing in one department the scientific investigations of all the hospitals in the yet obscure fields of pathology and causation of insanity." It is also here announced for the first time that the Institute is not to be confined to the study of pathology to problems of insanity exclusively, but that investigation was to be comprehensive and unite all the branches of science which could be brought to bear upon the scientific study of mental disease. The Institute therefore established the departments of normal histology, pathological histology, cellular biology, bacteriology, physiological chemistry, psychology, anthropology and comparative neurology, and the persons in charge of these several departments were known as associates, the whole being under the supervision of the director. There was also an associate who directly assisted the director in the administration of the Institute and a corps of lay employees, known as librarian, archivist, preparator, indexer, accountant, stenographer, janitor and janitress, several having assistants. The expense of maintenance for one full year, exclusive of equipment, but including rentals, approximated forty thousand dollars.[1] The attention of legislative committees having the preparation of appropriation bills was directed to the expenditures for the Institute by the financial statement required of the Commission. Fortunately, until 1899, the appropriation for the State Care of the Insane had been made by a direct tax on the people, collected as other State taxes, and the resultant was at the disposal of the Commission, under certain statutory restrictions. In 1899 this was changed to a definite appropriation included in the general tax levy, and precise sums were appropriated for the specific purposes of the department. In this appropriation, and in spite of the earnest protest of the President of the Commission, a definite sum was named for the Institute, although quite sufficient for its purposes. To obtain this, it was necessary for the Commissioner to appear before the respective committees of the Legislature, and state with all the solemnity of an oath and upon his honor as an upright public servant that the amount asked for was requisite, that no further economies were possible, that the Institute was being conducted solely in accord with the purposes of its creation, and that the Commission vouched for the proper and most economical expenditure of the moneys. The question being wholly a professional one, the lay commissioners turned the responsibility over to the medical commisioner, as a matter upon which they were incapable of judging. There are certain periods in man's experience where ignorance is bliss unalloyed.

It is not my intention to criticise the development or the administration of the Pathological Institute. I should be pleased to see its scope widened beyond the present, and comprehensive

[1] The appropriation for the year 1899 was thirty-six thousand dollars.

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enough to apply all the sciences to the great purpose in view; but I am constrained to hesitate when the burden of State care is overburdened to carry on in a proper manner the elementary needs of the insane, to recommend its increase by the addition of scientific research not pertinent in a broad sense to that department of charity. During the summer of 1899, the Institute was practically vacated for the three hot months, and although the professional element of the organization may have continued research elsewhere, it was an incident which excited inquiry and criticism, in great part directed at that Commissioner who vouched for the economical expenditure of the appropriation. The Director was appealed to for an explanation and thenceforward until the present moment a constant effort has been sustained to determine how far and in what manner and to what purpose is the State justified in maintaining scientific institutions. If the Institute was created primarily for the benefit of the State Hospitals, it has failed in its purpose, for the State Hospitals have been a small element in its consideration, and for reasons promulgated by the director, in an exposition of the methods of research commended bv him.[1] He has set forth many truths in a brilliant manner, but he has failed to take into full account the worth of clinical methods and their union with pathological research; and this is the criticism from the hospitals. The critics in the profession at large are numerous, but one class can be cancelled as having personal ends to serve. Others complain of the Institute as a close corporation, although maintained by the people for the people. They want a manifestation of the educational feature which was announced upon its establishment.

After a serious and painstaking consideration of the several matters which seemed to form a proper basis for inquiry, the Commission invited Dr. Edward Cowles and Dr. G. Alder Blumer (member of this Association) and Dr. Councilman of Harvard University to examine the scope and methods of the Institute, and report as to their value, the justification of the department of insanity in maintaining so comprehensive a scheme of research and the degree in which the present development of the Institute realizes the purposes of its creation. The questions submitted to this committee embodied the criticisms by the medical profession which were current during the past two years or more.

The speaker represents the unanimous sentiment of the Commission in stating that the sole motive actuating it in the inquiries thus far made to formulate a basis of justifiable procedure for the Institute, is the enhancement of the purposes for which the Institute was established—the spirit of the organic law—and to mark the border lines of "correlation" with the allied sciences, beyond which the State or at least the department of insanity should not go. Any other motive is foreign to the Commission, and any other claim is baseless. In the face of a determined opposition in the last legislature to cut out the appropriation entirely, the Commission made as strong an appeal as it was possible to make, or ever has offered, for the continuance of the Institute; but only partially succeeded, by receiving an appropriation of twenty thousand dollars, and even this is hampered by an embarrassing provision which prohibits any expenditure for rents. I was informed by the chairman of one of the legislative committees, that the arguments offered by the nearer representatives of the Institute, were almost sufficient to defeat the appropriation. The ordinary legislator is not capable of appreciating scientific arguments, and are better moved by personal assurances of supervising officials. Preachers of science are quite out of place in legislative halls.

There can be no denial that the Pathological Institute has accomplished some excellent work, and has in course of inquiry questions of prime importance to psychopathology. It is to be regretted that all research it has instituted cannot go on to completion, even should it call for the application of labor and material not in the jurisdiction of the department. The question is evidently not whether the investigations of the Institute are of value, but whether it is properly maintained by the State, and especially by the lunacy department. Furthermore, whether it is accomplishing all the functions for which it was created. The Commission has been convinced by the most trustworthy authority, that these questions bear a negative phase that calls for early and radical changes in policy. It is sincerely to be hoped that the present organization may be modified by cooperation of the director to harmonize with the convictions of the Commission and continue the more valuable researches in progress to the greatest possible degree; but that remains an open question. The teaching function should become a greater feature, a prime feature, perhaps. It is the conception of a Commisioner that the work of the Institute might be prosecuted in two departments, although under one director—*teaching* and *research*—each of which should be conducted by an experienced physician preeminently qualified.

The report of the Committee which served the Commission as well as the Institute, in its impartial investigation of the latter, is appended herewith (Exhibit A), but the time allotted for this paper does not allow reading it without a suspension of the rules. This report shows with what care all issues involved both in inception and development were considered, and the Committee has rendered an excellent service to the department, to the State and to science. For the scientific world is watching the experiment undertaken by New York, and abnormal tendencies would surely disrupt it in time; so that any effort which aids in restoring the Institute to a normal or appropriate standard, renders an invaluable service to science.

[1] "Correlation of Sciences in the Investigation of Nervous and Mental Diseases." Archives of Neurology and Psychopathology, Vol. I., 1898; by Ira Van Gieson, M.D.

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I regret that it is not possible to announce at the present time the final determination of the Commission. It has endeavored to cooperate with the Director to conform the future of the Institute to the funds available, and the requirements of the service, scope and organization which in gross have been determined by the late inquiry but thus far without avail. A pathological department for the State Hospitals which is not administered in harmony with the State Hospitals, and subject in some degree to their respective requirements as interpreted by their Superintendents, is quite impossible as well as inappropriate. If the State desires to maintain a department of pure science, for science only, the medical profession in New York will cry Godspeed in one voice, and loudest of all the psychiatrists, but for the sake of all peaceful principles it should not burden the harmonious, hard-worked, conscientious and methodical lunacy department with it.

Exhibit A.

NEW YORK, February 5, 1900.

To the State Commission in Lunacy,
Albany, N. Y.

Gentlemen:—Pursuant to appointment by the State Commission in Lunacy, your Committee to report on the work and scope of the Pathological Institute of the New York State Hospitals met in New York City on February 3, 4 and 5, 1900.

Your Committee began its work by considering the history of the Institute, as contained in the reports of the Lunacy Commission and elsewhere, to the end not only that it should fully apprehend the purpose of the Legislature and the Commission in its foundation, but that it should also determine the degree to which the Institute had departed from that original and avowed purpose. It seems clear from the recommendation of the Commission in its Third Annual Report, for 1891, p. 272, that "a special pathologist for the use of all the State Hospitals" be appointed; and from that of the Sixth Annual Report, for 1893-4, p. 58, that the State should establish and maintain "a pathological laboratory or institute, under the direction of an accredited and competent pathologist which shall be maintained primarily for the State Hospitals;" and from the further suggestion in the Seventh Annual Report, for 1894-5, p. 104, that the proposed department of the State hospital system should "provide instruction in brain pathology and other subjects for the medical officers of the State Hospitals;" it seems clear to your Committee that the intent of the Commission was that the Institute should be a handmaid of the hospitals and subserve their needs in all matters pertaining to the scientific aspects of the work, especially in the domain of pathology and pathological anatomy in close alliance with clinical observation and research.

Your committee appreciates the fact that the Institute in the organization of its work must necessarily have been given freedom to develop it gradually, and experimentally in some respects; but, while recognizing the excellent quality of much of the work that has been done, which has received high and authoritative commendation, the committee thinks that the Institute has failed to fulfil the specific purpose for which it was established. Instead of undertaking the problems of mental pathology, in practical conjunction with the several hospitals, it has widened the field of its operations on the basis of the federation of the medical and biological sciences under the leadership of psychology. It has given too great prominence, in thus occupying the debatable ground of speculation, to the deduction of theories rather than to the study of the facts of science, on the principle that the work of the psychologist can explain living phenomena better than the pathological anatomist provided the psychologist has the general knowledge of the medical sciences. Your Committee approves academically of the correlation of the sciences, but believes that the attempt thus to correlate them is a departure from the function of the Pathological Institute.

It is the opinion of the Committee that the failure, from the point of view of the State Hospitals, has been due to too great diffusion of effort, whereas the aim from the beginning should have been to establish closer relations between the clinical and pathological aspects of the work. In a word, the function of the Pathological Institute of the State Hospitals is not the correlation of sciences but rather the correlation of the clinical needs of the physician with science. No estimate of these needs can leave out of consideration the duty of the State of New York to make adequate provision for instruction of the highest order for those who are called upon to minister to the insane, her dependent wards. As the State in its wisdom has taken wholly under its charge the care of the insane, their treatment and the use of clinical opportunities, these latter should be utilized in training to the fullest possible extent. The data of the Hospitals is the material upon which the Institute should do its work. It seems to your committee that it cannot be too strongly insisted upon that the teaching function of the Institute must ever be its warrant for existence and a generous State support. Research work upon the problems of insanity would naturally follow the carrying out of proper methods of instruction and cannot be successfully pursued without it.

The present Institute, your Committee believes, has taught methods not matter. If as a laboratory it had given the physicians in the service the opportunity to obtain accurate knowledge of the nervous system, the necessity for expansion would have been felt more and more in the direction of the clinical study of insanity. Such facilities could be better afforded in a central laboratory that should be in a closer contact with a State Hospital than is possible in its present location; they should include short systematic courses of instruction to small classes of officers from the medical service, detailed in turn for this purpose from time to time, with the subsequent guidance of their work in the Hospitals. Such an arrange-

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ment would permit an appropriate coordination of the clinical with the various other problems, pathological, psychological, physiological, chemical, etc., that present themselves for solution, and thus furnish the natural stimulus to scientific work and promote the steady growth of a professional spirit. It is believed that, under competent guidance, such a laboratory, if it were connected with a small hospital to provide a sufficient variety of cases of insanity, would become a school of clinical psychiatry that would ultimately fulfil the great purpose that the Legislature and the Commission had in view in establishing the present Institute. Your Committee would therefore summarize its conclusions as follows:

1. The Pathological Institute should be maintained, but reorganized on a basis that shall have systematic teaching as its main function.

2. It should teach the fundamental principles whose study and application must lead to the clinical, anatomical and chemical research necessary for advancement in the curative and preventive treatment of insanity.

3. It should have as its director a physician who has had a training in clinical psychiatry, besides being a competent pathologist.

4. It should be located on property of the State, in a building of its own, as near to the metropolitan medical schools as is practicable.

5. As an essential of its teaching function its building should adjoin, or be a part of, a small hospital for the insane for the reception of acute cases and others appropriate for investigation.

6. Entrance into the medical service of the State Hospitals should be conditioned upon previous training in the Pathological Institute.

Respectfully submitted,

(Signed) EDWARD COWLES.
WM. T. COUNCILMAN.
G. ALDER BLUMER.

CLINICAL MEMORANDA.

HIP-JOINT AMPUTATION.

BY WM. D. HAMILTON, M.D.,
OF COLUMBUS, OHIO.

THIS paper describes five cases in which Wyeth's bloodless method of hip-joint amputation was used. Three of them were done by the writer, with one death and two recoveries. The other two patients were operated upon by my colleague, Dr. Chas. S. Hamilton, and both recovered. Of the last two, one had had a thigh amputation done by the writer, with early recurrence. The other case is of unusual interest and is cited in this connection for that reason.

Case I.—Mrs. I. E., forty-eight years of age, was seen with her physician, Dr. Aiken, at her home in Gallia County. She had had for the previous thirteen years a growth, involving the left knee and the lower part of the thigh. It had been pronounced sarcoma by two prominent surgeons of Cincinnati, who had advised amputation years ago, when she consulted them. Growth had progressed rapidly during the last year. Pain in the hip and knee had been severe. No evidences of tuberculosis were present in the patient or in her family history. There was not any history of traumatism. She had been crippled for several years. During the previous six weeks she had been confined to bed, and had become very anemic and feeble. Her extreme pallor and cachectic appearance suggested the possibility of deposits elsewhere. But metastases could not be found. The growth was fusiform in shape, eighteen and a half inches in circumference, and involved the knee and the thigh throughout most of its extent. Wyeth's method was employed August 8, 1895, at her home. After the operation was completed the pulse was 140 and weak. The femur, much softened, was found to be involved in a malignant neoplasm as far as the trochanter major. The patient died of shock five hours later in spite of the stimulation and the usual methods employed under such circumstances. The growth was sarcomatous.

Case II.—A. B., a carpenter by occupation, a resident of Columbus, was sent to Hawkes Hospital by his physician, Dr. Benjamin Lippett. He was fifty-six years of age. Seven years prior to his admission, he had fallen down-stairs and an injury to the thigh had resulted. Pain, disability and swelling had been very marked. The patient had attributed the tumor to this traumatism. While its progress had been very rapid during the three years prior to his admission, it had been especially so during the last three months. It extended from just above the knee so close to the hip as to leave very little healthy tissue below the articulation. It was rather firm to the touch, irregular in outline and was more apparent from behind than in front. The left thigh was twice as large as the right one. The malignant character of the tumor having been suspected, an exploratory incision was made under ether, April 14, 1899, when it was shown to be a sarcoma. Furthermore, it was found to have infiltrated the thigh so extensively that a hip-joint amputation was the only practicable expedient. This was accordingly done and he bore it well. There was practically no hemorrhage or shock. The wound was closed without drainage and he was discharged well in three weeks. There has been no recurrence.

Case III.—Miss W., aged sixteen years, of Washington Court-House, Fayette County, Ohio, was seen with the Drs. Ireland at her home, February 14, 100. Her grandfather had died of cancer of the lip. A tumor of the left thigh had been rapidly developing during the past six months. While at school, in the summer of 1898, she had struck her thigh against a desk and some swelling and lameness had followed. Severe pain was at times present. The growth enlarged the thigh

[1] Read before the Ohio State Medical Society, May 11, 1900.

to a point very near the hip-joint, having ascended higher on the outer than on the inner side of the extremity. Its malignant character had been suspected by her attending physicians. February 8, 1900, an exploratory incision into the growth showed its sarcomatous character and demonstrated that hip-joint amputation was necessary. This was done with a trifling amount of hemorrhage, but with some shock. A drain was employed and four hemostatic clamps were left in the wound, so inaccessible were certain deep vessels which did not readily admit of ligatures. Her convalescence has been quite satisfactory, and she now walks about on crutches. Her stoutness made neat coaptation difficult, and retarded the healing process.

Case IV.—T. S., of Columbus, aged fourteen years, had been under observation since childhood for tuberculous osteomyelitis of the femur with sinuses. There were five children in the family of the patient, and he was the only member of it who was affected with tuberculosis. Incision, curettage of the sinuses, iodoform injections and tonics had been tried in vain. He had the waxy pallor which is often observable in sufferers from old tuberculous arthritis. He had persistent hectic and an abundance of albumin and casts in the urine, which was of low specific gravity. In spite of these unfavorable facts, he was subjected to hip amputation under ether at the Children's Hospital on November 27, 1899, by Dr. Charles S. Hamilton. Silk ligatures were used. He made a good recovery and is well to-day. The interesting fact is that prolonged suppuration, albumin, casts, low specific gravity of urine, profound anemia, with amyloid visceral changes, seemed to contraindicate amputation. It was done, however, with a full realization of the gravity of the situation. He is now well.

Case V.—Mrs. W. C. B., aged thirty-two years, of Columbus. Had been married eight years and had borne two children. No cases of malignant disease were found in the family history. At the age of seven years a mass as large as a hickory-nut was felt by her in the center of the calf of the left leg. The neoplasm grew steadily for twenty-four years, but within the previous few months it had progressed rapidly, so that the circumference of the middle of the leg was nearly twice as great as that of the other. The tumor, which pulsated distinctly, reached nearly to the knee, and a distinct bruit could be heard over most portions of it. There was some pain, but only within the past few weeks had locomotion been impaired. She was admitted to Hawkes Hospital and was etherized for exploration October 20, 1899. The malignant character of the growth was evident on section, and the thigh was amputated below its middle by the writer. Recurrence in the stump appeared within four weeks, necessitating amputation at the hip-joint, which was performed by Dr. Chas. S. Hamilton November 24, 1899. She convalesced rapidly, has since borne a healthy child, and is well to-day.

There is no doubt as to the great value of Wyeth's bloodless method where it is applicable. A well-appointed hospital is the proper place for its performance. There, too, shock can be more successfully combated, in case it should occur.

STUMP PREGNANCY.[1]

BY JOHN C. MORFIT, M.D.,
OF ST. LOUIS, MO.

IN August, 1897, M. A., aged twenty-three years, produced on herself an instrumental abortion. She was a working-girl in a department store, and to cover up suspicion had not remained away from her duties, but endured the pain while on her feet for a large portion of many days. This was the second experience of the kind she had had. She was referred to me the latter half of August, 1897. There were all the symptoms of pelvic inflammation; fever of a remittent type, pain and tenderness, especially in the lower abdomen, exaggerated on exertion or palpation. There was constipation and distention. There was, also, a muco-purulent vaginal discharge, very abundant, but not showing any gonococci—only the ordinary pus-producing organisms. The womb was soft, somewhat enlarged, very tender and red. In the cul-de-sac to the right a mass about as big as a hen's-egg could be detected, this was elastic, but did not fluctuate. The left ovary and tube could be felt, but were not pathologic. The mass on the right, I took to be a pyosalpinx, resulting from an infection incident to the criminal abortion.

Operation was decided on. The tube and ovary were removed, and about an ounce of pus escaped from the distorted and distended tube. At the time, I did not notice how far from the uterus I applied my ligature. Recovery was uneventful and rapid. The woman gained her accustomed robust health, except for the necessity of removing, six months after, one of the interrupted buried silkwormgut sutures, which was used to unite the fascia. This is a practice I have discarded, having substituted cumol catgut as a suture, and from which I have never experienced bad results in a considerable number of cases.

December 17, 1899, two years and four months later, I was called in the evening to see this same patient. She had a weak, thready pulse that I could not count; seemed worried; the lips were pale, the hands and feet cold, respiration quick and shallow with nostrils dilating at each respiratory excursion. She told me in slowly spoken words, that she had been two weeks overdue in her period and believed she was pregnant. She complained of the most intense pain in the right side from the shoulder to the hip, with especial reference to the right iliac region. She was so weak, nervous and excited that I did not make any attempt to examine thoroughly. There was

[1] Read before the Tri-State Medical Society of Iowa, Illinois and Missouri, April 3, 1900.

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no mistaking hemorrhage, however, with such symptoms. I gave three-eighths of a grain of morphine and one-thirtieth of strychnine, hypodermically, and in half an hour, injected a quart of salt solution into the rectum. This was retained and the pulse soon became steady and was 120; the temperature was below normal. As she was quiet and calm, I left her and returned early in the morning. At this time I was able with less difficulty, but not without causing the patient considerable pain, to examine the abdomen, which was much distended, and tympanitic except low down posteriorly at the sides, where there was bulging and dulness. The pulse was now 110 and much stronger than on the previous evening, but the patient was too weak to stand anything and was kept at absolute rest. I repeated the salt solution per rectum and encouraged the patient to drink all the liquid possible. Her great thirst made her comply frequently. I then left her to prepare for operation, and arrange for her to be carried on a stretcher to a nearby hospital. Before I could barely inaugurate my plans, I was recalled and found the sufferer in a state of profound collapse. There was absolutely no radial pulse and that of the carotids was only perceptible. Listening over the heart, I could hear only a continuous whir, no well-defined beat interval could be detected. The patient was stupid and responded to questions in an indifferent manner. I had concluded from the first that this was a case of ectopic pregnancy and this second collapse was no doubt due to a recurring hemorrhage. At both times the woman's condition was such as to preclude the thought of an immediate operation. I could only hope to get her in condition where she could be taken to more favorable surroundings and anesthetized. Much to my gratification, I was able to get a favorable response to another quart of salt solution per rectum, and brandy, strychnine, nitroglycerine and morphine hypodermically.

By the next day at noon, or thirty-six hours after my first visit, I had her in the hospital, where she arrived with a pulse of 108, weak and thready, temperature 97° F. A pint of normal salt solution was immediately injected under each breast into the loose pectoral tissue. The same fluid was administered by the rectum, but not retained. Fortunately there was no vomiting, and the patient took a considerable quantity of fluid by the mouth. Pain was complained of and morphine and the heart stimulants were administered freely by the hypodermic method. At 8 A. M. of the second day in the hospital the pulse was 150, weak and compressible, and the temperature at the same time was 101° F. Both remained at this point, but the pulse became stronger and the pain greater in the afternoon. The pain and tenderness were now confined to the right iliac region and were most acute. The other abdominal symptoms were somewhat intensified.

At 5 P. M. I decided to risk an operation, although I had little hope of bringing the patient off the table alive. I made the incision in approximately the same line of the first operation of two years previously, and encountered several embedded silkwormgut sutures. There was a band of adhesion running from the median line outward and backward to the fundus of the cecum, just to where the vermiform appendix is given off. This two inches of adhesion resembled a thread of catgut.

I only noticed this incidentally. My first object, of course, being to find the bleeding-point and stop the hemorrhage. Hindsight being sometimes better than foresight, I recall that I endeavored to stop the hemorrhage and then found the bleeding-point. The belly was full of black, but sweet-smelling clots, and there was quite a quantity of fluid red blood. Knowing that I had at one time removed the right appendages, I sought the left adnexa, and felt my way through the clots, and applied a forceps to the proximate portion of the left broad ligament. With this pressure, I felt at ease to proceed to the toilet of the belly, and must have removed more than a gallon of clots and fluid blood. What was my surprise, on getting a clear field, to see that the oozing was from the stump of my old operation. There it was, about three-fourths of an inch long, and ruptured, presenting a fuzzy placenta to my view. Another forceps was applied to the right side, both tubes ligated close to the womb, and the distal portions removed. The abdomen was then filled with normal saline solution and sewed up with several layers of buried catgut sutures. The patient was returned to bed, and everything done to sustain strength and lessen the shock. Artificial respiration was kept up for over two hours, salt solution was injected per rectum, under the breasts, and into the cellular tissue of the thighs. Twenty hypodermic syringe-loads of brandy, besides strychnine and nitroglycerine were administered. For many hours the patient seemed to be only artificially alive, but our persistent efforts were finally rewarded by a gradual return of consciousness, and more emphatic evidences of real life. In four weeks the patient walked to her carriage and was driven home. Her recovery would have been perfect, except for the annoyance caused by her burning her legs with hot-water bottles. To-day she is a picture of perfect health and suffers none. In the ovary removed there was a large ruptured Graafian follicle.

This, I believe, is a variety of extra-uterine pregnancy which has never before been met with, and for that reason, I have named it *stump pregnancy*, it having occurred in the remains of a tube, the proximal end of which I had not entirely removed. The absence of the ovary and most of the tube on the right side, the occlusion by ligature of the stump, the presence of a normal ovary and tube on the left side, and a large corpus luteum being present in the only ovary, lead to but one possible conclusion. The fertilized ovum came from the left side, passed

through the left tube and the uterine cavity up into the remains of the tube on the right side, where it began to develop and finally ruptured the tube into the abdomen.

This upsets the theory, and heretofore generally accepted view, that ectopic pregnancy is due to some mechanical or inflammatory hindrance to the normal downward passage of the fertilized ovum. I believe this case proves quite clearly that the ovum may travel either down or up, or down and up, and, wherever an ovum may be fertilized in the ovary tube or uterus, it seems certain that it can come from either side and go everywhere and anywhere before anchoring itself preparatory to development.

3535 Olive Street.

MEDICAL PROGRESS.

Gonorrhea in the Female.—In the female the most vulnerable parts, says William Gardner (*Montreal Med. Jour.*, April, 1900), are the urethra, the fundus of the vagina, and the cervical canal. In no part of the genital tract do the gonococci penetrate beneath the epithelial layer, and this is least resistant in the child and senile woman. Pelvic aching, scalding of the genitals, and profuse, fetid, purulent discharge are suspicious. On examination the orifice of the urethra is swollen, red and pouting; if the discharge is not evident, pressure in the vagina on the urethra from within outward will reveal it. The vagina will often appear quite healthy when Skene's tubules, the ducts of Bartholin's glands, and the cervical canal are infected, but this combination is sufficient to establish the diagnosis. For clinical purposes the discharge may be spread upon a slide and stained with methylene blue, after being fixed by heating for a few seconds. To be certain of the diagnosis the biscuit-shaped cocci must be found in pairs inside the pus-cells. When the uterine body is involved it is bulkier, firmer, and more tender than normal, and it gives out a thin purulent discharge. The commonest complications are extension to tubes or ovaries; very uncommon is a cystitis or pyelitis. In the acute stage, rest in bed, bland diet, warm hip-baths, saline purgatives, and frequent soothing irrigation of the genitals, as by linseed tea, may be employed. In the chronic stage have a vaginal douche administered in the dorsal position, using 1-5000 permanganate of potash, bichloride of mercury, or formaldehyde, followed by a small quantity of warm water. With the patient in Sims' position, through a Sims speculum, apply a twenty- to sixty-grain solution of silver nitrate by a swab with pressure until every part is whitened. Follow this by a tampon of five-per-cent. ichthyol-glycerin. The urethra and cervical canal are best treated by instillation of Skene's tubules and the ducts of Bartholin's glands by injection of the solutions with a slender-nozzled syringe. In the uterine cavity local treatment must be avoided. In affections of the tubes and ovaries, many get well with long rest in bed, good nursing, and symptomatic treatment; and if operation be inevitable, the longer the interval since the acute symptoms have subsided, the more favorable will be the course of the case.

Modern Dietetic Preparations.—Whenever anorexia exists or deglutition is rendered difficult, owing to stomatitis or diminished saliva or to the presence of functional or organic disease of the alimentary tract, the use of artificial food preparations is indicated. On account of the increasing number put on the market, J. Marcuse (*Therap. Monatshft.*, May, 1900) finds it advisable to indicate the value of the most important ones. Perhaps the first preparation was Liebig's extract, but this, owing to the high percentage of extractives and mineral salts, is more stimulating than nutritive. Of meat-juices, Valentine's is too expensive and contains but five per cent. albumin in comparison with Puro which contains thirty-one per cent. Most other meat-juices are of little value. Peptone preparations were next advocated, but, since physiology has shown that they are of no more value than ordinary albumin, their use has become more and more restricted, especially since, when long continued, the peptone will irritate the mucous membrane. Somatose, with its fifty-one per cent. of albumose, was then expected to solve the problem, but the entire absence of extractives and the development of diarrhea, vomiting and even loss of weight after prolonged use, have disillusioned all enthusiasts. A step in the proper direction was taken when the value of phosphorous containing proteids was appreciated. Casein may be considered the type of these and is the base of eucasin, nutrose, samose, sanotogen, plasmon, eulactol and others, which, besides their cheapness and high concentration, are readily soluble and almost tasteless. Other valuable preparations, among which may be mentioned mutase, tropon and aleuronat, contain vegetable proteid. In conclusion, the author points out that the importance of albumin in foods is generally overestimated, since but two ounces daily are needed if carbohydrates and fats are present in sufficient amount. Another mistake that is frequently made is that the importance of water and salts as integral parts of food is often underrated.

Treatment of Gastric Ulcer.—The mortality of gastric ulcer has been lessened by appropriate treatment from about fifty per cent., as estimated by Bimton, down to about ten per cent. at the present time. B. Reed (*Internat. Med. Mag.*, May, 1900) suggests that in every case showing marked hydrochloric-acid excess, the danger of ulcer should be appreciated and the condition treated and subsequently guarded against. The indications to be met in the cure of the disease are (1) to put the stomach at complete rest; (2) to reduce the hyperchlorhydria; (3) to allay the pain and vomiting; (4) to preclude or arrest hemorrhage. The patient should be kept in bed

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for three weeks at least and for one week fed exclusively per rectum. Hot poultices or compresses may also be used over the epigastrium. A clyster of salt and water should be used as a cleansing agent before the nutrient enemas are administered. These may be given two to four times a day, and need not consist of predigested food, the following being very efficacious at times; good fresh milk, freshly expressed beef-juice, raw eggs, solutions of sugar and also of very thoroughly cooked starch. A pint of salt should be added to each enema. Ewald recommends two to three eggs beaten up with a tablespoonful of cold water, then a tablespoonful of prepared cereal, dextrinized by heat, is boiled with a half tumblerful of twenty-per-cent. solution of grape-sugar and a wine-glassful of claret added. When lukewarm, stir in the eggs and add fifteen grains of salt. When the contents of the bowel become acid beef-tea should be given instead of milk and the sugar. Feeding by mouth should be begun with milk and lime-water, equal parts, giving at first a tablespoonful every half-hour and then increasing the quantity and the length of intervals. Barley-water, lightly boiled or poached eggs, slightly salted, and calf's-food jelly may be slowly added to the regimen. Vomiting may be relieved by pellets of ice and extreme thirst should be allayed by frequent sippings of cool water. Persistent pain and burning is usually due to excess of hydrochloric acid and is relieved by half- to one-dram doses of sodium bicarbonate. In stubborn cases forty to sixty grains of bismuth subnitrate in a draught of water may be given one hour before each feeding. When constipation results it is best relieved by enemas of olive oil. Hematemesis seldom occurs when on such treatment, but when it does appear the patient is immediately put to bed, an ice-bag applied to the epigastrium, and ice given by mouth. Ewald records having checked hemorrhage by washing the stomach out with ice-water, but this is very dangerous. Large doses of bismuth in lime-water, with one drop of carbolic acid and flavored with spirits of chloroform and compound tincture of cardamon, are often very valuable.

Therapy of Anthrax.—Contrary to some clinicians who advise expectant treatment in true carbuncle, A. Strubell (*Münch. med. Woch.*, May 8, 1900) recommends energetic measures, consisting in the application of very hot poultices (up to 145° F.) to the local lesion and the injection of a three-per-cent. solution of carbolic acid into the gangrenous tissue. Bacteriological examinations showed a gradual disappearance of the bacteria in the tissues with above methods. The patients can readily stand the high degrees of heat, owing to anesthesia, and carboluria does not follow.

Roentgen Rays in Aneurisms.—G. Kirchgaesser (*Münch. med Woch.*, May 8, 1900) speaks well of the value of the fluoroscope in diagnosing aneurisms of the aorta. The aneurisms usually throw a shadow beside the heart which can be seen to enlarge in all directions with each heart-beat. This picture must not, however, be regarded as pathognomonic, for, in a case examined by the author in which the shadow was well-defined and the pulsation marked, the post-mortem examination disclosed the presence of carcinoma of the cardia with extreme dilatation of the esophagus above, thus simulating aneurism. It is, therefore, desirable not to rely too much on the Roentgen-test, especially when the physical signs are poorly developed.

Vaccination and Variola in Pregnancy.—In vaccinating pregnant women M. Ch. Vinay (*Gaz. Hebd. de Med. et de Chirurg.*, May 3, 1900) points out the greater predisposition of these patients to infectious diseases in general and recommends great caution, especially when the operation is to be done upon the legs where the venous congestion may lead to a rapid spreading of any complicating infection. The protection afforded by the vaccination will also extend to the infant.

Dysmenorrhea Membranacea.—The following conclusions are given by Kollmann (*Wiener klin. Rundschau*, April 29, 1900) as having been arrived at in his experience as gynecologist regarding dysmenorrhea membranacea: (1) Membranous dysmenorrhea has no connection or dependence upon pregnancy or abortion. (2) It does not necessarily cause sterility. (3) It may end in spontaneous cure. (4) The dysmenorrheic membranes have nothing to do with inflammation of the uterine mucosa. (5) The fibrinous membranes are to be regarded purely as dysmenorrheic in character. (6) Unless examined closely these may be mistaken for blood-coagula or for the products of a croupous inflammation. (7) These fibrinous membranes are produced by a necrosis due to hemorrhage and exudation into the connective tissue of the uterus.

Symptomatology of Pleural Endothelioma.—Although recent advances in pathology have made it probable that endotheliomata are to be classified among epitheliomatous growths, the clinical history of the patients is often not so definite and, therefore, the diagnosis is not always possible. An interesting case is cited by A. Schultze-Vellinghausen (*Münch. med. Woch.*, May 8, 1900). He states that the diagnosis is generally made only in the advanced stages of the disease. A hemorrhagic fluid obtained by aspiration is, perhaps, the most constant and valuable sign, for, although this also occurs in phthisis, the absence of confirmatory evidences of phthisis and, more particularly, the large amount of the fluid and the rapid refilling of the pleura, speak for tumor. Large, polygonal cells in sheets, with large nuclei, are not rare in the fluid and can be distinguished from normal endothelial cells by applying a very dilute iodine solution, which in case of tumor, will color the cells brown. The sputum, too, may contain these cell-aggregations. Other valuable points are the de-

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velopment of papillary excrescences over the puncture-holes and the sensation of increased resistance which is noted on penetrating the dense tissue into which the infiltrated pleura is converted. The irregularity of the area of flatness is also suggestive. On the other hand, the greater distention of the affected side of the chest; the displacement of the adjacent organs, pains, absence of fremitus and voice and breathing, afford no help. Concerning etiology but little can as yet be said, but it is significant that in many cases some trauma to the chest wall precedes the growth.

Advantages of Aspirin.—From a study of a large number of rheumatic cases, K. Manasse (*Therap. Monatshft.*, May, 1900) is inclined to decide favorably as to aspirin. In all the acute cases there has been a prompt disappearance of symptoms, while in the subacute or chronic cases the patients were always made more comfortable with this than with other drugs. Daily doses of 45-60 grains do not injure the heart or other viscera nor are nausea and tinnitus ever caused, although they almost invariably follow the prolonged use of the salicylates.

Natural Sulphur-Water in Gall-Stones.—A. Winckler (*Therap. Monatshft.*, May, 1900) speaks very highly of the power possessed by sulphur-waters to increase and dilute the bile and thinks that in this respect they greatly excel the alkaline springs. The patients may drink the water at home or, preferably, should spend a few weeks at some watering-place where strong sulphur-springs exist. The cure should be continued for some time after the expulsion of the stones. The author also draws attention to the excessive ingestion of eggs as a possible etiological factor in causing gall-stones, since the yolk contains as much as one-half per cent. of cholesterin. Bread, also, should be used with moderation.

Liver Abscess and Appendicitis.—E. Loison discusses this subject (*Révue de Chirurgie*, 1900, pp. 522). There are meager statistics on this point, the following being the only reliable data. Reginald Fitz in 257 appendicites found 11 examples of suppurative phlebitis and hepatitis; Langheldt in 112 autopsies of appendicitis shows 4 cases of phlebitis and thrombosis, 2 of abscess of the liver, 2 of suppurative hepatitis, 2 of perihepatitis; Einhorn reports 100 appendicular postmortem examinations and found 6 complicated by infectious embolism of the portal vein, accompanied by pyophlebitis and by secondary abscess of the liver; Coley among 200 cases of appendicitis notes 2 of the liver and 1 of subphrenic abscess. Scattered through literature are other isolated cases beginning with 1849, when apparently the first reported instance was given. The avenues of infection may be the biliary canals. There is one well-established case of this on record. The usual ways of involvement are along the hepatic artery, the portal vein, the lymphatic system, and, by direct contact the peritoneum or retroperitoneal cellular planes. The arteries are the sources of deposit only as part of a general pyemia. The portal vein carries the germs directly in its current or as emboli following pyophlebitis with or without thrombosis. The lymphatics may connect immediately with those of the rest of the intestinal tract going to the liver, or by adhesions of the appendix with the parieties finally anastomose with the channels there and thus indirectly reach it. The pus may enter the mesentery of the appendix, burst through its base into the retrocecal cellular tissue and behind the colon in the retroperitoneal planes work upward. The causes of hepatic involvement are either unusual virulence of the germs or temporary depreciation of resistance, local and general. The ascent of the right lobe and fixation of the diaphragm as shown by the radioscope are excellent aids to definite diagnosis and often the site for exploratory puncture can be located. The prognosis is usually unfavorable in virtue of the combined appendicular and hepatic invasions. Multiple hepatic abscesses are almost always fatal. The prophylaxis is concerned with the early diagnosis and treatment of the appendicitis. Free evacuation and ample drainage of all the foci are the only treatment.

Trachoma.—Trachoma is such a common disease and its cure so difficult that the suggestions offered by N. B. Jenkins (*N. Y. Med. Jour.*, May 19, 1900) in regard to the cause and treatment of the condition are especially interesting. He believes that the probable cause of uncomplicated trachoma is chronic irritation or spasm of the ciliary muscle—accommodative asthenopia. This usually comes from errors of refraction, but it may be caused by excessive use of the eyes. Irritation or inflammation of the conjunctiva from filth, dust, or infection causes irritation or spasm of the ciliary muscle and trachoma may result. Trachoma is not especially contagious, but usually becomes complicated with infection and parasitism. It appears in several members of the same family oftentimes because its chief cause, ametropia, is hereditary. Irritation or spasm of the ciliary muscle from ametropia frequently affects an entire family, and may be caused by very low degrees of ametropia. Any inflammation or irritation of the conjunctivæ may cause blepharospasm, which is probably a factor in trachoma since it causes friction and congestion of the eye and its appendages. Perfect rest will usually give relief to trachomatous eyes and is the chief indication in this condition. Instillations of atropine, together with the use of bandages or cataract shields during the day, are of great use. Before bandaging a weak iodoform ointment may be applied to conjunctivæ and lids. At night the protection should be removed and the patient kept in the dark. Properly-fitting glasses should be used when the eyes are not at rest. Massage is very beneficial and is practised every week or so by rubbing the granulations lightly with a strabismus hook. Trachoma for-

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ceps destroy valuable tissue. The benefit derived from bluestone, alum and lunar caustic the author believes is due to the massage or the result of the rest the eyes receive on account of the pain induced.

Condition of Blood in Cancer of the Stomach.—In carcinoma of the stomach the patient usually presents such a degree of anemia, and may even simulate so closely the appearance of a pernicious anemia, that the blood-examination becomes an important feature. W. Osler and T. McCrae (*N. Y. Med. Jour.*, May 19, 1900) have given the results of the examination of the blood in fifty-nine cases of cancer of the stomach. The average number of red corpuscles was 3,712,186 to the cubic millimeter, a high blood-count since many of the cases were far advanced or cachectic. There were only eight cases below 2,000,000 and only two had a count below 1,500,000. One of these last had a large ulcerated area. These figures are important in differentiating from pernicious anemia. T. P. Henry has well said that in stomach cancer the diminution in red corpuscles does not keep pace with the cachexia, while in pernicious anemia the cachexia holds no pace with the oligocythemia. He has never seen a fatal case of pernicious anemia in which the red corpuscles were not below 1,000,000. Improvement in the blood condition was not common under medication and this may be of diagnostic importance. On the other hand, no marked loss in the condition was seen. Poikilocytes and normoblasts were found in many of the severe cases, but in no instance was a typical megaloblast seen. In fifty-two cases the hemoglobin averaged 46.9, giving a color index of 0.63. Nearly all those cases with lowest records showed marked ulceration. An examination of the white blood-corpuscles gave very little information. Neither ulceration, nor the presence of metastases, nor the situation of the growth, nor the relation of the temperature seem to have any constant effect upon the number of leucocytes. Differential counts of leucocytes proved to be unimportant and no myelocytes were found. The absence of a digestion leucocytosis has been held to be suggestive of cancer of the stomach. In this series, an accurate record was obtained in twenty-two cases, of which ten showed the presence of digestive leucocytosis and, therefore, the presence or absence of this condition would appear too uncertain to be of any diagnostic value. In a few cases of cancer the sallow, lemon tint of the skin, so characteristic of progressive pernicious anemia, was present. The authors conclude that (1) in a doubtful case a blood-count below 1,000,000 red blood-corpuscles is strongly in favor of pernicious anemia; (2) while normoblasts are present in all severe cases of secondary anemia, megoblasts rarely, if ever, occur in cancer of the stomach; (3) the number and kind of leucocytes present seem to be of no value in the diagnosis of this condition.

Operation in Uterine Cancer.—H. A. Kelly (*Jour. Am. Med. Assoc.*, May 19, 1900) says that in every case of cancerous uterus the entire organ must be removed, and no partial operation can ever be justifiable. In all cases in which the uterine body is involved, the tubes also must be removed. On the vaginal side one must cut away at least one inch from the edge of the growth, for often the neoplasm extends under the vaginal mucosa without causing perceptible infiltration or change of color. Portions of the bladder and rectum must be sacrificed if necessary. Nearly all cases of bowel involvement are associated with extensive lateral involvement. Cervical cancer extends by contiguity. Glandular metastasis is unusual in the earlier operable stages. The results of operation are sufficiently good to justify operation. The old method of shelling out the uterus only, is most liable to be followed by a recurrence. It is of greatest importance to pass catheters into the ureters to mark them out clearly during operation. Dr. Kelly's favorite operation consists in the following steps: Thorough curettage; circular division of vagina one inch below the diseased area; separation of bladder from vagina up to the vesico-uterine fold, which is widely opened, a wide opening of posterior cul-de-sac. The fundus is pulled forward through the anterior opening, the uterus bisected and then each half is divided transversely into two sections which are removed with the adnexa in such order that the most involved quadrant is removed last, since in this way more room is given for the complete extirpation of this most dangerous portion. If the ureter is involved, it should be resected and anastomosed into the bladder further back, and the extirpation completed, going all the way out to the pelvic wall if necessary. Drainage is to be used according to necessity.

Raynaud's Disease in the Insane.—Superficial symmetrical gangrene, writes J. E. Courtney (*Jour. of Nerv. and Ment. Disease*, May, 1900), is most frequently associated with mental disease. There may be a shallow but actual gangrene on some part of the extremities, with detachment of the skin and gradual healing of the raw surface left. The loss of tissue is much less than the extensive blackening of the surface would lead one to expect. Abortive attacks also occur in which small areas of fingers or toes show pallor, coldness, and slight anesthesia without gangrene; or the skin of the tips of the fingers or the back of the hand may darken, shrink, and peel as in severe sunburn. In these conditions the indications are rest, hygiene, tonics and attention to the nutrition, with, locally, warmth and scrupulous cleanliness.

Tuberculosis in Boston.—The Boston Board of Health has classed tuberculosis as contagious, and requires reports of cases of this disease from physicians. During the past five years deaths from consumption in Boston have been about double the combined mortality from scarlet fever, diphtheria and typhoid fever.

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A WEEKLY JOURNAL

OF MEDICAL SCIENCE.

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SATURDAY, JUNE 2, 1900.

THE AMERICAN MEDICAL ASSOCIATION AND THE ATLANTIC CITY MEETING.

ON Tuesday next the American Medical Association will convene at Atlantic City for its fifty-first annual meeting. Those who attended the meeting at Columbus last year have scarcely yet recovered from the feelings of discomfort endured during that oppressive weather from which no relief could be found and are welcoming with pleasant anticipation the brief sojourn by the sea. The invigorating ocean breezes of Atlantic City are proverbial, but the *Association Journal* has reached the climax of commendation in its prospectus of the meeting when it says that the air is such that we shall all feel when we take it in that we are ambassadors at the Court of St. James. A courtly grace and dignity may, therefore, be expected to sit upon every man's brow and the amenities of high diplomacy characterize the meeting's transactions. "Ambassadors" will be as thick as Colonels 'fore de war.

Thorough business principles and methods seem to have characterized the preliminary arrangements and everything gives promise of a large attendance and a most successful meeting. The programs of the various Sections show evidence of careful forethought in securing for discussion the live topics of the day and placing the subjects in competent hands. More and more attention is being given each year to the scientific work and the quality of the transactions is attaining such excellence that the question of embodying them in a volume of more permanent form than is afforded by the weekly journal is worthy of consideration.

The addresses also are of a high order and engaging character. These will be presented in next week's issue of the MEDICAL NEWS as well as a concise and interesting report of the scientific and business proceedings.

THE NEW YORK PATHOLOGICAL INSTITUTE.

IT is no secret to the members of the profession interested in scientific research that for some time serious friction has existed between the State Commission in Lunacy and the Pathological Institute. The director of the Institute claims that he has been subjected, by the Commission, to petty annoying criticism the object and end of which he could not understand but which interrupted and interfered materially with the progress of his work; that the Commission was unable to, or at least did not, make clear to him in any definite practical way what it wanted, except to give him the impression that it was bent on putting a stop to his original scientific research and determine to reduce the Institute to a clinical-laboratory appendage to the State Hospitals, with a teaching function.

The establishment of the Institute was the first, definite, well matured and efficient endeavor ever put into practical operation to solve the problem of insanity. Naturally the MEDICAL NEWS, as well as all friends of progress along these lines, were intensely interested in the success of the enterprise. When it was assailed therefore the MEDICAL NEWS opened the question before the court of last appeal in medical scientific matters—the medical profession, and called upon Dr. Wise as President of the Commission to present his case. It has required some persistence on our part to induce him to meet the issue and we are therefore gratified at presenting in our columns this week what in legal phrase we may denominate "The Commission's Brief."

Unfortunately there is running through it all, and especially pronounced in the letter to the editor, a strong undercurrent of personal feeling, which is greatly to be deplored. The essen-

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tial fundamental principle of the Institute and the hopes that its success had aroused are in danger of extinction. But this aside, the burden of the complaint seems to be that the Institute has departed from the original and avowed purpose of the legislature and of the Commission in its foundation. There may be just ground for honest difference of opinion on this point. The fact can only be determined by a careful résumé of all the annual reports bearing upon the subject and the wording of the law. In addition to what Dr. Wise has given we have space for only one quotation from the Seventh Annual Report of the Commission as follows: "The legislature at its last session authorized the establishment by the Commission of a department for the special study of mental pathology and allied subjects * * * * the aim being to provide for the exhaustive study of the causes and conditions that underlie mental diseases, from the standpoint of cellular biology, which is now elevated to the dignity of a special science; also to provide instruction in brain pathology and allied subjects for the medical profession, especially alienists and neurologists, etc." There was a dominant idea in the minds of most of the Hospital Superintendents, of which Dr. Wise was formerly one, that the Institute was founded for the purpose of simply examining morbid specimens and chemical compounds sent to it by the different State Hospitals. They have been unable to reconcile this with the broader conception of general psychological research. This is demonstrated by the fact that the Superintendents have sent to the Institute for examination, specimens of vanilla and lemon extracts, soap powders, butter to be tested for oleomargarine, water, sewer and sludge contents and finally bed-bug exterminators. Against the last the chemists did rebel. The Institute made the analyses but at the serious delay of work on epilepsy and other subjects. This has been a prominent cause of dissension.

One criticism prominently urged is that the hospital staffs and Institute do not work in harmony in the matter of instruction. During the first three years of its existence the Institute instructed sixteen men of the staffs of the various hospitals. During the winter just passed the Director solicited men from the staffs of ten of the hospitals to be sent for instruction at the Institute. Without exception "hospital duties" prevented a single member of any hospital from responding to the call. If the system of work in the hospitals prevents the members of the staffs from attending instruction at the Institute certainly the Institute ought not to be held responsible. Even among the sixteen men who came, in former years, only one is now following out his scientific work in the hospitals; the others have resigned or been so overwhelmed with their routine work that they were forced to give up their investigations. The system of the State Hospitals and the State care of the insane is and must be, under the present system, a perfunctory one. The daily life of the physicians in these hospitals shows that they cannot give any time for scientific study of the patients under their care. The senior assistant makes his morning rounds, accompanied by his junior assistant, among 300 to 400 patients, few if any of whom he knows by sight. On this formal round there is time to chat with only a few. Before leaving the ward he must inspect clothing, bedclothes, general housecleaning and sanitation, examine reports and requisitions. He may then be obliged to follow patients who have already gone to the exercise grounds, hastily con them over, deliver instructions to attending nurses, arrange the hours of the nurses, who shall be on duty, who off, etc. During the interval before lunch if any patients are sick with intercurrent diseases they must be seen and prescribed for. During the three hours after lunch he must sit in the office to receive and talk with friends of the patients, make notes of what they say, who they are, etc. The junior spends his time writing out the long histories, making notes and copying them into the almost endless history books. The Superintendent is general manager and hotel keeper. These men are all sad victims of "a system which molds them into methodical machines with a maximum of routine output and a minimum of intellectual activity." No wonder that clinical study of the insane in the State Hospitals has proved sterile in finding the causation of insanity and presents no scientific basis for treatment. Small wonder that "hospital duties" prevent the staff from taking instruction at the Institute.

The scientific side of psychiatry still lags behind the other branches of medicine and will continue to do so until scientific men are permitted to work out unhampered the problems underlying mental disease. The insane hospitals are closed to them because the system there in vogue prevents scientific research. The physicians there are overwhelmed by executive routine and cannot work out the problem. Such knowledge can only be wrenched from Nature by long, patient,

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persistent research on the part of trained scientists. Such are the men at work in the Pathological Institute. It was expected by the Commission which founded the Institute that at least ten years would be required to accomplish any tangible results looking toward the establishment of a definite pathology of insanity. The scientific work already accomplished by the Institute has attracted the favorable notice of the scientific world and this too in spite of the fact that a large portion of the time has necessarily been taken up with the details of organization and equipment. It is now going forward with its work along numerous lines of enquiry that give promise of great and far reaching results. If we mistake not, the voice of the profession will be: Hands off, give it time.

THE AFTERMATH OF THIS YEAR'S GRIP.

WE have had this year, as in every year since 1890, a recurrence of the grip epidemic. The disease, therefore, may fairly be said to have established itself as an endemic in the Western world.

Each year has seen the development of certain special features of the disease. It has never come back in quite the form it presented at its previous visitation. This year has been no exception to the rule and although the season is now well advanced we have not gotten entirely beyond the malevolent effects of the disease.

Nervous symptoms have been the special complication and they have sometimes seemed to demand the presence and activity of other causative agents in addition to Pfeiffer's influenza bacillus, although they have always subsided as soon as the more pronounced grip symptoms were under control.

In children there has been a special liability during the year to the development of otitis media, which has often required a resort to the mastoid operation. This complication has been noted before, but not with such frequency as during the present year. Another feature of the past winter's influenza in children has been its proneness to cause very high temperatures. It has not been an uncommon occurrence for the temperature to reach 105° in cases of simple grip. These febrile movements have at times been very irregular or intermittent with almost daily drops to subnormal temperature. In adults as well as in children there has been a marked tendency to the development of cutaneous eruptions. Cutaneous complications have been noted very generally also in England. These skin manifestations have usually been of the character of nervous cutaneous lesions, the multiform eruptions which are caused by the presence of toxins in the circulation, whose action is mainly on the trophic fibers in peripheral nerve-endings. Mental symptoms and sequelæ have also been a distinct feature of the disease. Many patients have labored under a depression during the course of the disease that seemed utterly disproportionate to the severity of their influenza infection. In some of these cases neurasthenia and in others melancholia have remained during a prolonged convalescence; the whole clinical picture being that of a severe, protracted and exhausting disease rather than what seemed at first a comparatively mild affection.

The phases of grip during these years of its prevalence form very interesting data for the natural history of the disease. There is undoubtedly some rule of influence in the meteorological conditions that obtain during certain seasons which it is quite within the realm of carefully compiled statistics to solve. The problem appears upon its face so complicated as to be hopeless, yet it is probable that some of its simpler elements would yield readily enough to patient investigation and the collation of weather conditions and types and quality of virulence of the disease during special seasons. Successful work in this line would be practically ground-breaking and would doubtless prove suggestive to a host of investigators.

ECHOES AND NEWS.

NEW YORK.

City Hospital Nurses.—The twenty-fifth annual commencement of the New York City Training School for Nurses was held in the chapel on Blackwell's Island May 31st.

The City's Vital Statistics.—There were 15,314 deaths in New York City during the last quarter of 1899, according to the Health Board's report. The death-rate was 17.25, based on the following borough ratios: Brooklyn 16.08, Queens 15.95, Manhattan 17.17, Bronx 22.26. The high death-rate in the Bronx is largely due to the many deaths in city institutions there of inmates transferred from Manhattan. There were 141 suicides during the quarter.

Addition to Woman's Hospital.—A four- and five-story addition has been planned for the New York Medical College and Hospital for Women, at 19 West One Hundred and First Street. The present structure will be raised one story, so as to conform with the addition. The cost will be about $43,500.

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Beth Israel Hospital.—The corner-stone of the new Beth Israel Hospital at Cherry and Jefferson Streets was laid on May 27th. Great numbers of people were present. Mr. Guggenheimer said that ten years ago "the race which realized that love of humanity transcends in its strength and beauty any theories of theology established this hospital."

Contagious Diseases.—For the week ending May 26, 1900: Measles, 577 cases, and 22 deaths; diphtheria, 249 cases and 42 deaths; laryngeal diphtheria (croup), 6 cases and 3 deaths; scarlet fever, 114 cases and 10 deaths; smallpox, 4 cases; chicken-pox, 18 cases; tuberculosis, 211 cases and 181 deaths; typhoid fever, 17 cases and 6 deaths; cerebrospinal meningitis, 7 deaths; totals, 1196 cases and 271 deaths.

Association of Military Surgeons.—The ninth annual meeting of this organization has been held during the past three days at the Academy of Medicine. The principal subjects for discussion were: Examination of Recruits; Camp Sanitation; Rations; Transportation of Wounded; Field and Service. Many of the papers read embodied the results of service in the field during the Spanish-American war, and the various insular campaigns which have followed it.

Robbed Doctor's Office.—Three hundred dollars' worth of instruments were recently stolen from the office of Dr. James W. Harris in Brooklyn. They were, however, all recovered. A man called on the afternoon of May 26th and asked for the doctor. He was not in, and the man said he would wait. A few moments later he was discovered filling his pockets from a drawerful of surgical instruments. He was subsequently caught and imprisoned.

Smallpox from the South.—There were on May 28th two cases of smallpox at Haverstraw, three at Tarrytown and one at Dobbs Ferry, all of negroes who came to this State from Newport News. Secretary Smelzer, of the New York State Board of Health, has written to the Virginia State health authorities, requesting that more stringent measures be taken in quarantining smallpox so as to prevent its spreading over adjoining States.

Roosevelt Hospital's Needs.—In the twenty-eighth annual report of the Roosevelt Hospital, which has just been published, it is stated that the sum expended for the hospital's support, $152,677.95, including repairs and improvements, was $7,918.68 greater than that for the previous year. During the year 2,752 patients, of whom 411 were paying patients, were treated; 65,465 visits were made to the Out-Patient Department, a falling-off of 6,228 from the records of the previous year. An additional endowment of $500,000 is urgently needed to care properly for the present group of buildings.

Dr. Shaffer Corrects a Statement.—The New York State Hospital for the Care of Crippled and Deformed Children has been incorporated, and Dr. Newton M. Shaffer has been made the institution's surgeon-in-chief. It has been stated that "all surgical and medical officers of the hospital except the surgeon-in-chief shall render their services gratuitously." Dr. Shaffer calls attention to an error in this statement. He has absolutely declined to receive any salary. The Doctor further informs us that "a fund of nearly $5000 (in which I have had the privilege of joining) has been raised from private sources as supplemental to the money appropriated by the State."

Death of Dr. Otis.—Dr. Fessenden Nott Otis, formerly of this city and of world-wide reputation among medical men, died in New Orleans on May 24th at the age of seventy-five years. He was a frequent attendant at the clinical lectures in the New Orleans Charity Hospital, where he caught a severe cold which developed into pneumonia. From this disease he recovered but a carbuncle then developed from which he died. Dr. Otis was Clinical Professor of Genito-Urinary Diseases in the College of Physicians and Surgeons from 1870 up to 1890, when he resigned and went abroad. He was graduated from the New York Medical College in 1847. He was the author of books, articles and pamphlets on medical and other subjects, and he was the inventor of a number of instruments, especially for use in genito-urinary work.

PHILADELPHIA.

Woman's Medical College.—The Chair of the Principles and Practice of Surgery and of Clinical Surgery has recently been made vacant by the resignation of Dr. Thomas S. K. Morton.

Jefferson College.—Dr. H. W. Stelwagon, Clinical Professor of Dermatology, has recently been made an honorary member of the National Dermatological Society of Italy.

Public Baths.—The second annual report of the Public Bath and Wash-house on Gaskill Street shows a total of 34,680 bathers and 1487 washers during the year. Indications point to the institution becoming self-supporting in a few years.

Rural Sanitation.—In an address before the Health Authorities' Association at Mechanicsburg, May 24th, Mr. W. H. Allen of the University of Pennsylvania stated that local supervision of rivers was futile in obtaining pure water supply for cities. Cities should seek to abolish river pollution rather than to mitigate it by filtration, etc. Inspectors under the direction of the State Board of Health should patrol the rivers of the State.

Health Report.—Deaths for the week ending May 26th were 424, a decrease of 111 from those of the previous week and an increase of 40 over the corresponding week of last year. Contagious diseases: Diphtheria, 88 cases, 16 deaths; scarlet fever, 59 cases, 2 deaths; typhoid fever, 66 cases, 6 deaths. Influenza was the cause of 4 deaths.

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Medical Examinations.—Dr. S. Weir Mitchell, in a recent communication to the *Philadelphia Medical Journal,* expresses himself as strongly in favor of an oral examination being added to the present test of the State Board of Examiners. It is unfair to subject men practically trained to only a written examination. For this reason practical tests should also be made, as questions upon a dissection, the description of microscopic slides, a single urinary examination, etc. It is essential that the State Board by degrees improve its tests.

Pathological Society.—At the meeting held May 24th Drs. Pearson and Ravenel exhibited a lung containing a dense growth of the aspergillus fumigatus. The specimen had been removed from a cow which died six months after showing symptoms, there being almost continuous cough for the last two months. The lung was markedly emphysematous and the bronchi were involved. Portions resembling partially-organized hemorrhages proved to be networks of mycelial threads. In the discussion which followed Dr. McFarland mentioned the fact that the specimen was presented by the first veterinarian admitted to the Society. The wisdom of admitting such members is evident from the benefit to be derived from comparative pathology. Dr. McFarland then exhibited cultures of the plague bacillus. Some cultures of the bacillus are pathogenic for rabbits and not for rats and *vice versa.* This suggests the possibility that it may at times be pathogenic for man when rats are not affected. The bacilli are much fewer in number in septic cases than in the other forms of the disease. Dr. A. O. J. Kelly reported a case of papillomatous epithelioma of the pelvis of the kidney. The tumor was removed from the kidney of a patient sixty-one years of age. It was the size of a walnut and projected partly into the parenchyma of the organ. Interstitial nephritis of high grade was present, and the symptoms somewhat resembled those of renal calculus. Dr. Simon Flexner reported the results of investigations concerning the nature of the new tissue in cirrhosis of the liver and its distribution. The experiments were made possible by the recent discovery of a specific method of staining elastica. The results show that the new tissue is not elastica alone, as was at one time supposed. After staining this tissue, it and the cells were digested away by pancreatin and new tissue was still left. Further tests show that the new tissue is made up of all the kinds of connective tissue normally present in the liver. No one kind alone is increased in cirrhosis, but all kinds are increased. When the process is confined to the periphery the fibrous and elastic tissues are increased in amount, the elastica being derived from the adventitia of the blood-vessels and the fibrous tissue from that surrounding the bile-ducts. When the lobules are coarsely invaded, white fibrous tissue grows in from the periphery. The finer involvement of the interior comes from the reticulum which increases in amount.

County Medical Society.—At the stated meeting May 23rd, Dr. H. W. Cattell gave a kromoscopic exhibition of pathologic specimens by means of lantern-slides. The natural colors of the specimens were exceedingly well shown. The photographs shown had been taken through all the color-screens at once. This method is advised for the use of teachers of anatomy or pathology, as the kromoscope itself can hardly be used by a large class of students. It is also of value in the illustration of books, as a picture can be taken directly from the fresh specimen and the printer given the kromoscope, with instructions to reproduce the colors. Dr. J. P. C. Griffith read a paper upon laboratory feeding of infants in health and disease. Fat is the most variable ingredient in herd milk, but the centrifuge determines the amount where laboratories are not convenient. Physicians must not think that laboratory milk is an entity. Anything wanted can be ordered, the same as at a drug store. The objection has been raised that laboratory cream is a separated product. This is a trivial objection as practically all cream is so obtained these days. However, the cream will be skimmed at the laboratory if so ordered. Dr. Griffith begins with a low mixture, say .50 per cent. proteid, 2 per cent. fat, and 5 per cent. sugar. This formula is increased as the infant needs, not according to its age but according to its gain in weight. Great stress is laid on weighing the infant once or, better, twice a week. A case was cited in which the proteids were increased because of the age of the child, although it was doing well. It at once lost weight but began gaining when the proteids were decreased. The fact was emphasized that very small changes in the formula will be noticed in the child's condition. This argues for percentage formulæ. Three cases were detailed where laboratory milk had been used but in wrong proportions, each case showing marked improvement when experimentation determined the proper percentage. These cases might have been used as an argument against laboratory milk when they were really due to carelessness on the part of the physicians. Dr. L. S. Somers stated his results from the internal use of adrenal extract in 21 cases of hay-fever. Tablets were found to be preferable to a solution, one five-grain tablet being given every two or four hours as the patient could stand. As high as seventy-five grains daily were given in one case with no untoward effect and with no effect upon the disease. In 6 cases the paroxysms of asthma were more frequent during the use of the extract. In 5 others asthma first appeared during its use. The conclusions reached are that adrenal extract is practically inert in its action on hay-fever when given internally. Some effect is obtained when the tablets are dissolved in the mouth. It is of service when applied locally to the mucous membrane of the respiratory tract.

CHICAGO.

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Down-Town Emergency Hospital.—Dr. Ger-

trude Wellington recently appeared before the Finance Committee of the City Council and urged the establishment of an emergency hospital in the down-town district. The Finance Committee expressed their willingness to recommend the appropriation of $2000 to aid in the undertaking, with a share in $3,000 now given annually to St. Luke's and Mercy Hospitals.

To Treat Consumptives.—Health Commissioner Reynolds says that Chicago has already taken steps toward preventing the spread of this disease, and in commenting on the report from Boston that the health authorities there had determined to disinfect every house containing a consumptive patient and to begin a campaign against the contagion, he is quoted as saying: "It is a mistake to try and make a consumptive feel that he must be an exile or a leper to be shunned by everybody. In the first place, the disease may drag along for forty years without any sudden developments to enable a doctor to diagnose it correctly, and then again it is curable. The best way is to get the patient to believe that he can be cured, and that he can also be of use to the community by preventing the spread of the disease. If consumptives would deposit their sputa in a paper and then burn the paper, there would be no fear of contagion.

Formaldehyde and Milk.—In the office of the milk-inspector are samples enough of adulterated milk to show that the use of formalin is widespread. The milk-inspector has received letters from several milkmen which in substance state that the prompt prosecution of dishonest dealers would protect the honest milk-deliverers quite as much as it would the customers. The Health Department has decided to use moral suasion for a time, then, if such measures are not effective, the milkmen who use formalin as a preservative will be prosecuted. A number of notices have been sent out and the milkmen are stopping the use of the chemical almost everywhere. It is believed that a great deal of the damage done by this preservative has been wholly unintentional; that many of the milkmen have used preservatives with honest purposes and no thought of danger. The stand taken by the Health Department against the use of formaldehyde will go a long way toward stopping the practice of poisoning the milk intended for the nourishment of little children and sick persons, but prompt action by housewives and mothers in ceasing to deal with all milkmen whose milk stands the test of time for too long a period would settle the whole difficulty.

Disinfection of Chinatown.—The Health Department inspectors of sanitary conditions are making a round of the Chinese quarter in an attempt to improve conditions in that district of the city. The recent developments as regards bubonic plague have led the Department to increased vigor in insisting upon better sanitary conditions. The inspectors will disinfect by wholesale the Chinese district, and two inspectors have been instructed to watch the Chinese habitations for the arrival of newcomers from any other city on account of the possible transmission of bubonic plague. A mandate has been issued that cleanliness must be observed whether the occupants of dwellings enjoy the process of disinfection or not.

Prosecution of Dowieites.—The attorney for the State Board of Health, it is said, has obtained evidence on which he expects to direct civil proceedings against certain of Dowie's followers, and probably Dowie himself. The proceedings will be in the form of a suit for damages claimed by a Mrs. Bone for injury to her daughter's health. The disclosures made concerning the girl's treatment show that the institution of Dowie is beyond toleration by the Health authorities. The evidence to be brought in the courts will show the necessity of revising the provisions of the Medical Practice Act which permits these faith healers to operate.

Bubonic Plague.—In the weekly bulletin of the Health Department, Dr. Arthur R. Reynolds takes occasion to say that recent developments in the plague situation fully warrant his action taken more than four months ago, when he urged the Surgeon-General of the United States Marine Hospital Service to call a conference of public health officials for the purpose of deciding upon uniform and cooperative measure for preventing the introduction and spread of bubonic plague in this country. For want of such measures the State of Texas has now quarantined against the city of San Francisco, and a large area of the country is in a state of alarm bordering on the panic which so often breeds shotgun quarantines in the yellow-fever zone of the South. It is to be feared that this is but the beginning of costly and vexatious interruptions of travel and traffic wholly unwarranted by any actual menace to the public health of the country. In the absence of authentic information, frankly published without suppression or concealment, disquieting rumors will gain currency; restrictive efforts will lack uniformity, and the efficiency to be gained by cooperation; business interests will be injured and the public mind will be so perturbed that the public health will suffer far beyond any probable results of the plague itself. What now remains for Chicago, as for every other community, is to set its own house in order; to spare no effort for that degree of civic cleanliness which, while making the spread of the bubonic plague impossible, will also improve the general health. More has been done in this direction during the past few months than in any spring period for many years, and Chicago is to be congratulated on the success of the efforts of individual citizens and householders for a cleaner city. The change wrought in the appearance of many alleys is a revelation. It is an object lesson which is being copied widely and gives promise of the complete abolition of the disease-breeding manure box and

the equally obnoxious garbage box, illegal nuisances that are the cause of more avoidable disease and death than any other. When they are finally abolished, Chicago will have no reason to fear the plague or any other pestilence.

Vital Statistics.—For the first time in many weeks no death from influenza was reported last week nor was it mentioned as a complicating cause of any other disease. One death from smallpox, seven from measles, and six from whooping-cough were reported. There were 45 deaths from violence and suicide. There were 502 deaths reported last week, this being 25 less than the preceding week, but 106 in excess of the corresponding period of last year. A very unusual feature of the week's mortality-list for this time of the year was the report of three deaths from sunstroke. The very hot weather of the early part of the week was responsible for the acute intestinal diseases, there being 36 from this cause, as compared with 17 the week preceding.

Inspection of Milk.—At a meeting of the Chicago Medical Society, held May 23d, Dr. Arthur R. Reynolds spoke on this subject. In referring to the results of milk-inspection by the city, he said that when the inspection of milk was begun by the city it was found that 45 per cent. of the milk sold in the city was below the standard. Now only 10 per cent. is below the required grade. The great trouble with the system is that it does not prevent the adulteration of milk by second- and third-hand dealers. The people must be instructed as to the quality of milk and must remember that they cannot hope to buy good milk for a small price.

Inspection of Herds by Veterinarians.—Dr. A. H. Baker discussed this subject. It is now a well-accepted fact that dairy-cows must be examined by competent State veterinarians at least once a year. No animal is more susceptible to disease than the average dairy-cow. Every little indisposition of the cow, and, indeed, every different mental state, has its effect on the milk. A change of diet will have its immediate effect. The only way to obtain a good milk-supply is to have healthy cows. The only way to be assured of the health of a cow is by the annual tuberculin tests of veterinarians. The tuberculin test will show immediately whether or not the cow tested is diseased, and the best proof of its reliability is found in the fact that only 2 per cent. of the cows killed were found to be without disease. There is no doubt about the advisability of having the State conduct these annual tests of the dairy-cows.

Feeding of Milk to Infants.—Dr. W. S. Christopher discussed this phase of the subject, and declared that there are children whose constitutions are such that milk has the effect of a poison on them. He advocated feeding fresh beef-juice to children who are thus constituted.

The Dairy Farm.—Mr. H. B. Gurler dwelt upon this topic. He described the precautions that should be taken in producing the marketing milk. He believes that absolutely pure milk could be kept on ice for two weeks and still be fresh and sweet.

GENERAL.

Astor's Gift to a Hospital.—William Waldorf Astor has sent a check for £10,000 to the Maidenhead Cottage Hospital in celebration of the coming of age of his eldest son.

Couldn't Afford to Lose Him.—A Scott County (Kan.) physician recently moved to another part of the State because he could not make both ends meet in his practice. But his old patients needed his services so badly that they circulated a petition asking the County Commissioners to appropriate a bonus of $500 annually to the doctor on condition that he should return. The Commissioners made the appropriation, and the doctor returned.

Infection from Sweatshops.—The Mothers' Congress at Des Moines, Iowa, May 25th, listened to a paper on the sweatshop, read by Mrs. Florence Kelly of New York, Secretary of the Consumers' League. It seems that it is the fault of women that sweatshops exist, because if garments made under sanitary conditions by fairly paid labor were insisted upon, the dealers would furnish them. The Consumers' League has, after years of labor, made a list of fifteen factories where women's underwear is manufactured under proper conditions, and the goods made by these factories bear the label of the League. Mrs. Kelly considers that the danger from germs is as great in sweatshop garments as in children's food.

State Colony of Insane.—There has been reported to the Massachusetts Assembly a bill for the State support of the insane paupers in the State. The bill goes into effect on January 1, 1904, and it forbids any city or town to have any asylum for the insane after that date, or to be liable for the board, care, or treatment of any insane person. The bill provides for the purchase of from 1500 to 2500 acres in some tract, at a cost of not over $25,000, and the expenditure of not over $50,000 is permitted for the erection of buildings for the dwellings of the insane. Thus there will be a State colony of the insane, living in small numbers in separate cottages. It is expected that the able-bodied insane will be set to work on land.

Increasing Population of Japan.—A correspondent in the *Evening Post* writes: "On witnessing the high state of cultivation to which the fields are already subjected, and the extent to which the arable land is already occupied, one soon becomes oppressed with the problem of what is to become of the increasing population after a few years. Everywhere one sees swarms of children, and, on consulting statistics, it appears that the present rate of increase is about 500,000 annually, or a little more than one per cent. Ten years ago the population was about 37,000,000. At the present time, including the 3,000,000 annexed in

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Formosa, there are 46,000,000. An important factor in the future increase is to be found in the decreasing death-rate resulting from improved sanitation and the dissemination of higher medical skill. Taking all these things into consideration, it is not too much to expect that, with a continuance of present social conditions, the population of the Empire will double within the next fifty years, reaching 100,000,000 shortly after the beginning of the second half of the century."

Smallpox in Excursion Party.—The steamer "New England," of the Dominion Line, sailed from Boston February 1st with a party of excursionists on a tour of the Mediterranean Sea. Upon arriving at Naples it was discovered that smallpox had developed among the members of the crew and had been communicated to some of the passengers. The state of affairs was not known to the passengers generally, and while the excursionists were visiting Rome, the captain of the ship discharged the passengers' baggage and after disinfecting his ship sailed suddenly for Liverpool. The baggage was finally fumigated and forwarded overland to Liverpool. Transportation for the passengers was also secured. One of the excursionists, a young lady from Minnesota, died at Rome from the effects of the epidemic; and another excursionist, a lady from Worcester, Mass., also died from pneumonia.

A Doctor Recovers Damages.—Dr. Walter B. Wellbrock, of Brooklyn, secured a verdict recently in the Kings County Supreme Court for $25,000 for damages received by the running down of a tally-ho coach by a train of the Long Island Railroad. Dr. Wellbrock's injuries were most severe; his right arm was fractured in three places, his left leg in four places, and his left arm in two places. His left arm was dislocated at the shoulder and his left patella was fractured. Many others on the coach were also injured but not so severely.

A Professional Promoter of Charitable Enterprises.—One J. W. Stokes, a young man of charming address and kindly demeanor, seems to have conducted in Boston, St. Louis, Cincinnati, Cleveland and many other cities, a number of enterprises calculated to raise money for charitable causes. He seems to have found this work rather more remunerative for himself than for the institutions concerned. For instance, Mr. Stokes has lately consummated an entertainment for the benefit of the Sunshine Mission, whose purpose is to improve the condition of the youth of the "Hell's Kitchen" district in this city. The mission benefited to the extent of $55.00. The rest of the money received—a very goodly sum—was appropriated by Mr. Stokes in payment for his own services. It appears to us that a good many enterprises which have of late years been conducted ostensibly in behalf of hospitals and dispensaries in this city, have been managed upon Mr. Stokes' plan.

Obituary.—Dr. Charles M. Newell, physician, sailor, poet and writer, died at his home in Watertown, Mass., on May 25th. When fourteen years old he ran away and shipped on a whaling craft. He became a captain and spent a winter in the Arctic regions, exploring to a point farther north than any American up to that time. He spent some time in the Hawaiian Islands and was decorated by King Kalakaua in 1888. He practised medicine for thirty-five years in and near Boston.

Army "Contract Surgeons."—A bill for the relief of the acting assistant surgeons of the Army has been introduced in the United States Senate and is now before the Committee on Military Affairs. It ought to become a law. These surgeons, called also "contract surgeons," were employed during the Spanish War and many of them are still in service in the Philippines and in this country. Their monthly salary is $150; they wear army uniform without any badge or indication of rank, and they perform all the duties that regular surgeons perform at larger salaries. This bill, if passed, will remedy a great deal of injustice. It provides that hereafter all contract surgeons shall have the allowances and privileges of first lieutenants, except the pay, which shall continue to be $150 a month. All acting assistant surgeons appointed since May 1, 1898, shall be paid for sick leave and for ordinary leave not to exceed thirty days in each year of service; and gives them the right to file claims for back pay for such periods of leave, for commutation of quarters, and for travel pay and allowances, "which may have been withheld from or not paid to them." Other sections of this bill are also commendable. The medical service, both in the Army and the Navy, is not especially attractive to good men; and any movement tending to make it more so should be furthered.

The Plague.—There have been no new cases discovered in San Francisco since our last report, although a suspicious case is now under investigation. In all nine cases had occurred prior to May 15. The Board of Health has placed all of Chinatown in quarantine and no one is allowed to enter or go out of the barriers. In the mean time a renewed house to house inspection is being made and sanitary measures enforced. The special correspondent sent out by the *New York Herald* is presenting to the public in a forcible way the reports already communicated to the proper authorities of the Board of Health and the Marine Hospital service and is thus establishing the confidence of the public in the authorities. In the mean time the larger cities of the country which are possessed of quarters known as Chinatown are anticipating any future trouble by inspecting and enforcing sanitation. At Rio Janeiro, May 27, two cases were reported in Hospital Misercordia, one in the Hospital Carmen, one in the barracks of the First regiment of infantry, and other cases throughout the town. On the same date at Port Said one new case of plague

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and one new death, both the victims being Arabs, were reported. There are now eleven Arabs in hospital, and four Europeans. The total number of cases to date is forty-four, of which twenty-one have ended fatally and eight have been cured.

In India according to a special to the *New York Times*, April 26, the outlook is of the gloomiest possible description. From every stricken province the weekly returns show steady increases in the totals of people on famine relief, with the solitary exception of the Punjab, where the figures are for the time being more or less stationary. There are now close on 5,500,000 persons in India in receipt of famine relief, while the actual number of people who are severely affected by the extreme scarcity must by now be close to 100,000,000.

The spread of the plague throughout India is such as to give rise to the most serious alarm. For the last three years or so the plague has to a large extent been confined to the west side of India, especially Bombay. But it has gradually spread over a vast extent of country, and at the present moment there are few provinces which are not to some extent afflicted. In Bombay, Sind, and Southern India it is rampant. There are many deaths daily in Calcutta and its neighborhood. Throughout the lower provinces of Bengal there is great mortality from this cause. Recently there have been cases in the northwest provinces. Certain districts of the Punjab are afflicted. And there are signs that the fell disease will gradually extend all over the country.

There are many disquieting features about the course of the plague. To prevent its spread it is absolutely necessary to carry out measures of disinfection and isolation. These the people resent to an extraordinary degree. They are convinced that the Government doctors have orders to poison off all patients, and thus to stifle the spread of the disease. They proclaim that no one who goes to a Government plague hospital ever comes out of it alive. The result of all this agitation is that there have been serious riots and disturbances arising from plague prevention measures.

The doctors employed on plague duty go about in fear of their lives, for it is only necessary to be known as a plague doctor to cause a mob to assemble for the purpose of murder. Some soldiers driving through a native town a few days since in a perfectly quiet and harmless manner were mistaken for plague doctors. They were immediately set upon and so beaten and ill-treated as to be left for dead.

Smallpox in the Philippines.—Surgeon-General Sternberg describes the situation in the Philippines as regards smallpox and vaccination as follows:

"At the time of the occupation of Manila smallpox prevailed as an epidemic in the city and the neighboring towns and villages, particularly among the native population. The troops were exposed to the infection within a day or two after their arrival. The period of incubation is two weeks, and on September 3 the first case was taken from the command and isolated in a smallpox ward established as a part of the First Reserve Hospital. Arrangements were made and promptly carried into effect for the protection of the troops by vaccination, but cases of the disease occurred until March 31, 1899, when all danger of its epidemic spread was declared by the Chief Surgeon to be at an end. During this time 236 cases were reported, with seventy-seven deaths. During the remaining nine months of the year 1899, twenty-three deaths were reported, making a total of 100 in the eighteen months. The unusual length of time occupied in controlling the disease was due to the difficulty of obtaining fresh vaccine. That which was sent from this country evidently suffered deterioration during the long voyage. Ultimately fresh virus was obtained by cultivation in the laboratory of the Board of Health of Manila. As compared with our losses from this disease in the Philippines it may be stated that the German army, in which vaccination is carefully conducted, lost 278 men by death from smallpox during the seven months of the Franco-Prussian war, while the French army, during the same period, had the appalling loss of 23,000 men from this disease. Our white troops during the civil war reported 4717 deaths deaths from smallpox."

CORRESPONDENCE.

THE PATHOLOGICAL INSTITUTE AND THE STATE COMMISSION IN LUNACY.

To the Editor of the MEDICAL NEWS:

DEAR SIR:—A well-established principle of the State Commission in Lunacy is to take no public notice of inuendo, contumely and carping criticism, which may be anticipated by a State department with interests as great and varied as those of the department of insanity in New York. Your recent editorials—the last appearing in the issue of the MEDICAL NEWS of May 19th, *instant*, which bears the guarantee of a responsible and influential journal, although the ear-marks of an individual—contain so many perversions of fact and libellous intimations, that they form a sufficient reason for this departure from precedent, especially on the part of the writer. He can better reply to these misleading statements, which he ascribes rather to misinformation than to any intent to do an injustice, by supplying correct data in a brief résumé of the circumstances and motive which led to, and the needs to be served by, the creation of a central laboratory (the Pathological Institute) for the State Hospitals, as well as the present effort of the Commission to have its work modified in the degree necessary to meet existing hospital requirements. When the Institute was organized in 1896, there were nine (9) State Hospitals; but by the transfer of the New York City and Long Island institutions to the State,

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the several units of organization now number fifteen (15), with an aggregate insane population of 22,000, receiving approximately 4000 patients annually, and having about 130 physicians engaged in the medical service, exclusive of the Institute staff. The fundamental element of the "State Care Act" was cooperation. This applied chiefly to administrative requirements, both in the interest of improved service and for economic reasons, and soon became an established function. Later, cooperation seemed equally applicable to scientific research. Hitherto each hospital had a laboratory, usually with inadequate equipment, and the superintendents agreed that if the several hospitals were united in a central laboratory, with a directing pathologist of a higher grade than it was possible for any individual hospital to afford, it would result in an improved service and economy, and would enhance scientific research. It was always maintained that the central laboratory should be created "primarily for the State Hospitals," as the published reports of the Commission and of the several hospitals will show. Clinical and pathological research were to be prosecuted with a mutual interest. The central laboratory, which was created in 1896 and entitled "Pathological Institute of the State Hospitals," was to be virtually the several smaller laboratories united into one, giving thereby the advantages which usually accrue to concentrated effort and united endeavor. But the union of clinical and pathological work was not to be disturbed, and their codependence was rather to be cemented than disrupted. The Institute after all was but a State Hospital laboratory of large proportions, located in New York City because it was in close proximity with two-thirds of the committed insane in the State. When, therefore, the Director of the hospitals' laboratory began the process of amputating the hospitals from it—severing their relations—and manifesting an unmistakable tendency toward the creation of an independent institution, substantially averring in an official document that the hospitals were not required, that they had no suitable material in the line of research he contemplated, it became justly a cause for complaint by the medical superintendents, and the Commission was petitioned to save for the hospitals this important and necessary adjunct to their clinical work. With the complete and costly equipment of the central laboratory, the hospital laboratories were not maintained except to meet the ordinary clinical requirements, all special research being dependent upon the cooperative laboratory. It appears astounding to the well-informed and shows an ignorance of insane hospital possibilities to claim that no value for pathological purposes attaches to the enormous number of cases received in them; many of the admissions being of the same types received in general hospitals, such as delirium, toxic cases, etc., which go to make up the cases "not insane."

One of the chief benefits anticipated from centralization, and announced by the Commission upon the creation of the Institute, was "to provide instruction in brain pathology and allied subjects for the medical officers of the State Hospitals, and to other members of the medical profession," etc. This function has been in a great measure ignored, and in the few instances where medical officers were received at the Institute, it was a matter for complaint by the Director that it retarded research by absorbing the time of the staff to such a degree as to be discouraged, and experience indicates that it has been.

At the bi-monthly conference of hospital superintendents, held in Albany in January, *ultimo*, there was a unanimous expression of opinion and sentiment, which was emphatically favorable to a continuance of the Institute and original research, but in an equal measure called for a modification of the existing scope and methods of its practice, to meet the practical and clinical needs of the Hospitals. The following excerpts are from the stenographer's notes: "The lines on which it has been conducted have not been for the best interests of the Hospitals, and for the interests of the insane in them." "The foregoing expresses very clearly my ideas in regard to the Institute. . . . I believe the work could be changed—could be more practical." "We have not been closely enough in touch with it . . . bring the hospital work closer to research." "I think the work should be more closely identified with the Hospitals." "Research could have practical application in a measure, at least, for the benefit of the insane in the Hospitals." "I want to see it (the Institute) preserved, but its work should more nearly meet the needs of the Hospitals." "I think the work has departed from the original design and does not agree in fact with the scope outlined by the Director in his introductory," etc., etc. These opinions could be multiplied, and although unanimous with the New York State hospital superintendents, it is the prevailing sentiment of psychiatrists engaged in hospital work and cognizant of hospital needs.

It is sincerely to be regretted—and by none more than the writer—that personalities should enter into a controversy of so grave a nature as this. The largest measure of spleen and complaint seems to be opened upon the medical member of the State Commission in Lunacy, and chiefly, it is assumed, for his former loyalty to the Institute as administered and for his support of the Director. The writer appealed to the superintendents to withhold criticism and complaint, relying upon the assurances of the Director, frequently repeated, that a demonstration would soon be made which would receive the plaudits of the scientific world and would quiet all critical and complaining elements. The waiting process is still going on, for there has been no disturbance of the Institute, either in its organization or methods. Thus far the demonstration is confined to the promulgation of a theory not generally accepted. It is not denied that the Institute has effected some excellent work in

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original research and has still more in progress.

Inquiry into economic features of the work has been forced upon the Commission. The annual expenses of the Institute has been approximately $40,000. The specific appropriation for 1899 was $36,000. The rental for rooms is more than $6000 per annum. Criticisms were frequent from medical men and neurologists of New York and elsewhere, physicians who have recently signed a protest against disturbing the present methods of the Institute, complaining of illegitimate application of public funds to the self-aggrandizement of the Director and his associates, in promulgating impossible and unscientific theories. It was charged that under the influence of a psychologist (not a physician) the Director was making the so-called scientific work of the State Hospital system the gibe of psychiatrists and pathologists. Through it all he was faithfully supported by the Commission, the President appearing annually before the respective appropriation committees of the Legislature, and upon his responsibility as a public official stating that the public moneys to be expended by the Institute were requisite, that no economies were possible, and that it was being conducted in accord with the avowed purposes of its creation.

It was not until the autumn of 1899, and after the Institute had been practically vacated for more than three months without the approval of the Commission (although the contention of the Director had been that a light, airy and cool location was necessary, regardless of cost, on account of the necessity of continuing work during the hot weather), that in response to a sharp and peremptory official criticism of such action, aimed particularly at the medical commissioner, an inquiry was made into the scope, methods and administration of the Institute. Up to this time, the acts of the Director, as well as his organization and methods had been loyally supported by the President of the Commission. Besides the Director's associates respectively in charge of the departments of pathology, normal histology, pathological histology, cellular biology, bacteriology, physiological chemistry, psychology, anthropology, and comparative neurology, there was also a corps of lay employees, known respectively as librarian, archivist, preparator, indexer, accountant, stenographer, janitor, janitress, several of whom had assistants. As soon as this officer, however, proposed an inquiry, editors of newspapers (medical and lay), State officers, and especially the Governor, physicians, and especially neurologists—who had previously been ignored and condemned as critics or colleagues and scouted as peers—were appealed to for support on the ground of an attack aimed particularly against scientific research. This contention is unfair, baseless and without a scrap of evidence. It is ethically audacious and extravagant, unjust, in the face of evidence showing the chief object of the inquiry to be the enhancement of scientific research in the pathology of insanity, aided by clinical resources.

The Commission called to its aid a committee of three physicians who are preeminent in their departments of practice, two of whom were psychiatrists and one a teacher of pathology in a leading university, to examine the scope and methods of the Institute, and report as to their value, the justification of the department of insanity in maintaining so comprehensive a scheme of research and the degree in which the present development of the Institute realizes the purposes of its creation. The report is too lengthy to quote in this letter, but the conclusions are as follows:

"1. The Pathological Institute should be maintained, but reorganized on a basis that shall have systematic teaching as its main function.

"2. It should teach the fundamental principles whose study and application must lead to the clinical, anatomical and chemical research necessary for advancement in the curative and preventive treatment of insanity.

"3. It should have as its director a physician who has had training in clinical psychiatry, besides being a competent pathologist.

"4. It should be located on property of the State, in a building of its own, as near to the metropolitan medical schools as is practicable.

"5. As an essential of its teaching function its building should adjoin, or be a part of a small hospital for the insane for the reception of acute cases and others appropriate for investigation.

"6. Entrance into the medical service of the State Hospitals should be conditioned upon previous training in the Pathological Institute."

In contrast to the foregoing facts, and impartial statement of the attitude of the Commission, its President, and others, I hope your readers will refer to the editorials in the MEDICAL NEWS *in re* the Pathological Institute, and the following petition which has been assiduously circulated for signatures, with an accompanying letter. I trust you may see fit to publish this petition and letter *verbatim et literatum*, as follows:

"In view of the fact that the Pathological Institute of the New York State Hospitals, founded by Dr. Carlos McDonald" (The official records show that the Institute was created by law, under the direction of *the* State Commission in Lunacy which was composed of three commissioners.—Note by the writer) "in the year 1896, has been carrying on scientific research in Psychiatry on lines of investigation as worked out by Ira Van Gieson, the Director of the Pathological Institute and his associates, thus helping to further the advance of Psychiatry; and in view of the fact that Dr. P. M. Wise, President of the State Commission in Lunacy of the New York State Hospitals, and Dr. Edward Cowles, Superintendent of the McLean Asylum, Chairman of the Committee appointed by the above-named Commission in Lunacy (*sic*), to sit in judgment and pass sentence on the work and principles of the Pathological Institute have decided and have actually attempted under the plea of paternal guidance and legislative supply of resources, to interfere,

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subvert and destroy the scientific work of the Pathological Institute, handing it over to the 'superintendency of New York State Asylum superintendents,' and putting psychiatric investigation under 'their direction and control,' according to the old asylum methods, to do as Dr. Wise insists what the laboratories have always done in the State Hospitals, "resolved, that we, the undersigned, protest most emphatically against such a ruthless act of subverting and destroying a scientific Institute of great promise for the science of psychiatry, and condemn the interference with the scientific research work of the Pathological Institute, and protest against the crippling of its methods and principles of scientific investigation, either by forcing it to labor in the old pathways of asylum routine or to become the 'handmaid' as the committee puts it, of asylum men working at the will and command of asylum superintendents, or to divert its energies into educational schemes; and that we sustain the Pathological Institute along its present lines of organization, and principles and research.

"E. L. Trudeau, M.D.,
Edward D. Fisher, M.D.,
Graeme M. Hommond, M.D.,
E. C. Spitzka,
J. George Adami, M.C., M.D., R.S.E."

The following letter shows conclusively that duplicity is occasionally an implement of psychopathologists, and will explain to many signers of the "milder protest"—which the writer, by the way, read at the recent meeting of the American Medico-Psychiological Association, with the alleged signers—and that even apostles of higher research may fear "inexpedient truth." It may also explain the perversion of fact so freely promulgated of late, regarding the attitude of the writer. It would seem that not much "mature deliberation" was required to establish the value of either document.

"Pathological Institute,
New York, May 17, 1900.

"Dear Doctor:—

"Will you please look over the accompanying protest against the crippling and destruction of the work of this Institute, and let me know if you feel like joining with several men in New York, Boston, Philadelphia and Baltimore with your signature. I am in great haste to get the returns in order to present the protest at the coming meeting of the American Medico-Psychological Association. For I apprehend at this meeting that an issue will arise determining the fate of our cause. I have only had a few hours this morning to collect such New York signatures as you see appended. I enclose a much stronger protest, but which upon more mature deliberation we thought was too inexpediently truthful, and we shall therefore not use it. I wish very much to get the returns on Monday morning. If you think that answer by return mail would be too late to reach us, please telegraph us collect. *As far as we are concerned* we should like to have signatures to the *forcible protest*, although we should not present this at the American Medico-Psychological Association, because the milder draft would be more effective there.

Yours very truly,
Ira Van Gieson."

It probably will not require further examples of the effort to "mold professional sentiment" than is illustrated above. When it is stated that the Commission has respectfully invited the Director to cooperate with it, and to submit suggestions applicable to bringing the Institute within statutory requirements, without even the courtesy of an acknowledgment, the imagination of the reader can complete this history.

It may be stated that there has been no suggestion or proposition emanating from the Commission or any Commissioner, or from any superintendent of a State Hospital, to "interfere, subvert or destroy the scientific work of the Pathological Institute," or even to disturb it. All such accusations are the product of a morbid fancy, and might be explained as arising from a symptom group, which forms a common enough clinical picture. There has been no attempt at persecution; on the other hand the utmost graciousness has been extended, and forbearance has been shown beyond any official precedent, in view of the duties and powers of the Commission, in Chapter 545, of the Laws of 1896, which is as follows: "The Commission shall appoint a director of the Pathological Institute, who shall perform, under the direction of the Commission, such duties relating to pathological research as may be required for all of the State Hospitals for the insane."

Finally, the Commission, the superintendents of State Hospitals, all true friends of progressive science, as well as the MEDICAL NEWS, desire a continuance of pathological research into the causes and pathology of insanity and the continuance of the Institute without abatement, but to be administered in compliance with the requirements of law, without extravagance, and in accord with the consensus of professional opinion and the dictates of scientific common sense. This cannot be better illustrated as regards practical psychiatrists than to put in evidence the following unanimous request of the superintendents of the New York State Hospitals:

"In view of the recent discussions as to the work of the Pathological Institute of the New York State Hospitals, the undersigned superintendents of the hospitals request the Commission in Lunacy to make such modifications of the work as will bring about a closer relationship between the clinical and pathological departments, while affording at the same time the widest scope to original research work. We desire the encouragement and advancement of such original work, and believe that the importance of clinical investigation should receive recognition, having in view the welfare of the insane and the advancement of science.

Charles W. Pilgrim,
Supt., Hudson River State Hospital;

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Arthur W. Hurd,
Supt., Buffalo State Hospital;
Charles G. Wagner,
Supt., Binghamton State Hospital;
William Mabon,
Supt., St. Laurence State Hospital;
George A. Smith,
Supt., Central Islip, Manhattan, State Hospital;
E. H. Howard,
Supt., Rochester State Hospital;
A. E. Macdonald,
Supt., Manhattan State Hospital, East;
H. E. Allison,
Supt., Mattewan State Hospital;
R. M. Elliott,
Supt., L. I., Brooklyn, State Hospital;
H. L. Palmer,
Supt., Utica State Hospital;
S. H. Talcott,
Supt., Middletown State Hospital;
W. A. Macy,
Supt., Willard State Hospital;
E. C. Dent,
Supt., Manhattan, West, State Hospital;
O. M. Dewing,
Supt., L. I., Kings Park, State Hospital;
D. H. Arthur,
Supt., Gowanda State Hospital.

(Representing hospitals with an aggregate of 22,000 patients.)

It is therefore to be regretted that you have been so far misled as to state, editorially, that "attacks *in* (?) scientific research are committed by a man who, if he is not, still claims to be the chief and leader of the psychiatric profession in the United States." (The writer has not the egotism to apply this title to himself; but who is he?); and that "a heavy iron hand is put on its" (psychiatric research) "very heartstrings with the intent to crush out its activity and life." Moreover, it is hoped that you will correct, as far as possible, this injustice toward an earnest, honest and law-abiding impulse to uplift science and enhance research without violating the statutes of the commonwealth.

P. M. WISE, M.D.,
Prest., State Commission in Lunacy.

1 Madison Avenue, New York,
May 28, 1900.

OUR LONDON LETTER.

[From Our Special Correspondent.]

LONDON, May 24, 1900.

THE ANTIVIVISECTION CAMPAIGN—ACTION AGAINST THE BRITISH MEDICAL ASSOCIATION—THE POLYCLINIC—EXOPHTHALMIC GOITER WITH UNILATERAL PROPTOSIS—THE SOUTH AFRICAN WAR—BOER RATIONS—DO THE BOERS INTENTIONALLY FIRE ON HOSPITALS?—DIFFICULTY OF DISTINGUISHING THE RED CROSS FLAGS—NECESSITY FOR MORE OBVIOUS ARRANGEMENTS—THE PREVENTION OF LEAD-POISONING AMONG POTTERS—OUTBREAK OF LEAD-POISONING AMONG SHOEMAKERS—PROFESSOR VICTOR HORSLEY'S ATTACK ON MODERATE DRINKING.

THE action brought by Mr. Charles Adams, one of the leaders of the antivivisection campaign and editor of the *Verulam Review*, against the British Medical Association shows the straits to which the antivivisectionists are reduced for want of arguments. It seems that Mr. Adams, having read the Home Secretary's statement in Parliament that no experiments were performed on cats or dogs without anesthetics, addressed a letter to him as to 190 experiments returned in the inspectors' reports as having been performed under certificates permitting experiments without anesthetics. The Home Secretary replied that Mr. Adams was in error in thinking that the experiments were performed without anesthetics. Mr. Adams, having then an apparent contradiction, wrote to the gentlemen who carried on the experiments asking them to explain. He charged them with having performed experiments under anesthetics while they had obtained certificates on the express ground that the experiments could only be performed without anesthetics. He added that the statement of the Home Secretary appeared to cast a serious slur either upon their good faith or their professional competence, and that silence would be taken as assent. The judge said of this effusion: "A more impertinent letter was never written from one man to another." The *British Medical Journal* characterized the letter as inaccurate, misleading, and threatening, for the certificate referred to provided that the animal should be under an anesthetic "during the whole of the initial operation." "The irresponsible editor" of the *Verulam Review* was said to be either ignorant of the terms of the license or too careless to ascertain them while impugning the good faith of those who advancved the healing art by experimental methods. Hence the action which resulted in a verdict for the defendants—the only possible one.

At the Polyclinic Dr. Ord showed a very rare case of exophthalmic goiter in which the proptosis was unilateral. The patient was a woman who said that enlargement of the thyroid gland began after marriage. The projection was greater on the right than on the left side and the ordinary symptoms, tremor, palpitation and rapid pulse, were present. There was marked proptosis of the right eye, none of the left. Although Dr. Ord has seen a great deal of the disease he never previously has observed a case with unilateral proptosis.

The South African war is still the dominant topic in professional as well as lay circles. According to a daily paper the details of the Boer commissariat are as follows: The ordinary rations consist of a pound and a half of fresh meat daily, a pound and a half of coffee, three pounds of sugar and five pounds of flour weekly. Statements of savage disregard for the rules of the Geneva Convention by the Boers constantly appear in the press, and are accepted by most people. It seems to be forgotten that only one side of the question is heard and that with very few exceptions the attitude of the newspapers is far from impartial. A charge of firing on hos-

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pitals has often been made. A letter from Sir William Thomson, Surgeon-in-Chief of the Irish Hospital Field Force, which has just been published, throws a good deal of doubt on this assertion. Since he has been in the field he has come to understand how a hospital may be shelled by an enemy in ignorance of what it really is. The red cross flags not uncommonly lie motionless along the flagstaff in folds and can be identified only at short distances. Although he knew where to look for them, in calm weather they were indistinguishable at 200 yards. On the wagons the red cross is much too small. The enemy only sees groups of tents precisely like those used by the fighting men. He suggests that every marquee and bell-tent used for hospital purposes should have a very large red cross on the roof and sides, repeated on various aspects, and made as obvious as possible. In every case there ought to be a light canvas in a wire frame bearing a large red cross which could be hoisted when the flag is useless.

Professor Thorpe, Principal of the Government Laboratory, has delivered at the Royal Institution an important lecture on lead-poisoning. He pointed out that the evil is largely connected with the use of raw lead, white or red, employed as an ingredient of the glazing material, or in the composition of the pigments used in decorating ware. The comparative immunity on the Continent is largely dependent on the more general use of fritted lead. However, even with this form poisoning is not unknown. He has studied the conditions under which a frit yields its lead to dilute acids comparable to the gastric juice. It is mainly through the agency of the gastric juice that lead is toxic. He has found that the ease with which lead can be given up to solvents is largely dependent upon the ratio between the basic and acid constituents of the material. Provided that the sum of the basic oxides is not more than double that of the silica, the frit as regards lead has no greater solubility than about 2 per cent. He further discovered that by treating the frit in the process of grinding with weak hydrochloric acid practically all the lead which would otherwise be soluble could be removed, leaving the residue with substantially the same composition as before. Thus a frit containing upward of 53 per cent. of oxide of lead, giving 2 per cent. of soluble lead, has its solubility diminished to 0.4 per cent. These facts have induced the Home Secretary to call upon the manufacturers to discontinue the use of raw lead and to substitute for it fritted lead of a standard limit of solubility.

Lead-poisoning has occurred at Northampton from a somewhat unusual cause. It was noticed that a number of shoe-finishers came upon the union ill and that the doctor's certificates specified lead-poisoning as the cause. On investigation the evil was apparently traced to powders, known as Chinese red and yellow chrome, used in finishing the bottoms. On being applied to the soles of the boots the powders rise and are inhaled by the operatives.

Professor Victor Horsley has delivered at St. James' Hall a most uncompromising attack on moderate drinking, claiming that our present scientific knowledge is opposed to it. His experiments with Professor Krepelin's instrument showed that after a small dose of alcohol there was a slight shortening of the time of "simple reaction," as if the brain acted more quickly. But speedily slowing of the action of the brain began, which increased as long as the alcohol remained in the body. In the case of "complex reactions" (in which thinking was required) the action was never quickened; slowing began from the first. A further interesting fact had been demonstrated: After a small dose of alcohol Professor Krepelin's personal impression was that his brain worked more easily; but when he measured its actions by his instrument he found that the brain was working in an inferior manner. The influence of alcohol was therefore deceptive.

TRANSACTIONS OF FOREIGN SOCIETIES.

German.

TWENTY-NINTH CONGRESS OF THE ASSOCIATION OF GERMAN SURGEONS—THE OPERATIVE TREATMENT OF RENAL AND URETERAL CALCULI—PYELOTOMY VERSUS NEPHROTOMY — RADIOSCOPY AND EXPLORATORY INCISION IN DIAGNOSIS—DIAGNOSIS OF FUNCTIONAL ACTIVITY BEFORE OPERATION—SITE AND EFFECTS OF NEPHROTOMY INCISION UPON THE ORGAN—CASE OF CONGENITAL HYDRONEPHROSIS WITH DISPLACEMENT AND ITS TREATMENT.

ISRAEL said that the difficulty and uncertainty of diagnosis and the dangers of the operative interference often hindered surgeons from proceeding. These factors should not be given undue weight because so many renal and ureteral conditions are amenable to surgical management and so closely simulate each other in their early stages as to make free exploration justifiable. In this manner are often discovered tubercular foci, small abscesses, incipient tumors, and various perinephritic processes. Even when visibly the kidney may appear normal, incision of it often gave good results and could be regarded as usually warrantable. Anuria due to the calculi constitutes the greatest indication for operation, no matter whether it depended on bilateral ureteral occlusion, or unilateral stoppage with reflex inhibition on the opposite side or with absence or deficiency of function due to previous or other disease of this (opposite) side. Spontaneous passage of the stone may be awaited as long as true renal colic persists, but in its absence the calculus must be promptly removed, because the patients become rapidly and severely uremic and the kidney degenerates so soon as to render its subsequent function doubtful if relief be delayed. The advent of symptoms of suppuration whether the stone be in the kidney, the pelvis or the course of the ureter, is another absolute necessity for

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prompt action, because not only of the systemic effect of the infection, but also of its damage to the normal opposite kidney in the elimination of toxins. If the calculus be within the kidney-substance the divided organ should be temporarily drained. When the stone causes retention from time to time, endangering the organ by pressure, so soon as renal enlargement is made out, operate. Mere hemorrhages are the least indication for invasion of the organ for stone but are a sign for it in tubercular and other dangerous conditions. The dangers of the operation are slight in comparison with those of the condition left to its course, anuria, pyonephrosis, septic pyonephritis, etc. The mortality is only about 2-4 per cent.

The slow onset of signs of local infection, in order to protect the system and the kidneys from the danger of an extension of this process, is also a reason for treatment. Again, the depreciation of the patient from very frequently recurrent or chronic renal colic, with the possibility of sudden purulent invasion, also justifies operation. Finally, a stone in the ureter, with or without occlusion, palpable by the rectum, is a grave indication, because it always ends in a purulent condition. The danger of recurrence is not a contraindication, because dietetic and medicinal means may prevent it. A second operation for it is no more dangerous than the first. The passage of small non-faceted stones from time to time with intervals of perfect good health indicate internal medical treatment only.

Nephrotomy by its exposure of the entire anatomy is much more efficient than pylotomy for the removal of the stones, which may be so hidden as to escape detection through a small incision of the pelves. The small loss of secreting substance involved in the former may be neglected and suture of the renal parenchyma is simpler and surer than that of the pelvis. The technic is free shelling of the organ out of its fatty capsule, without damage to its capsule proper, down to the pedicle isolation of the ureter from the vessels; and temporary ligation of the vessels with a rubber-tube. The renal incision is lengthwise a little (2-3 mm.) toward the ventral aspect, thereby best avoiding the course of the vessels. Ureteral exploration with a sound is absolutely necessary.

Primary suture of the kidney is applicable to clean and occasionally to slightly infected cases when the urine is acid and the retention has been decreasing or is slight. Alkaline and purulent urine and marked or excessive retention, and a parenchyma studded with minute purulent foci demand free drainage. Such an organ sutured might go on to rapid general necrosis, and efficient drainage cannot be obtained through an opening in the renal pelvis. In grave cases of this condition it is best to divide the kidney into halves, sew each to a margin of the wound, drain freely, and give local treatment till the urine becomes nearly normal.

Primary nephrectomy for a first attack of calculi is not to be considered. It may be necessary for accidental otherwise irremediable injury to the pedicle, for persistent bleeding, as a secondary step, when reopening and tamponnade have failed. Tension on the capsule proper may here aid; hence the great motive for not damaging this when the organ is enucleated from its fatty bed.

Ureteral calculi can not be safely and positively diagnosed by sounds, as these may be arrested by other obstructions. The normal approach is after exposure of the kidney from above. Movable stones are coaxed into the renal pelvis, fixed stones are removed by longitudinal incision over them, closed by Lembert sutures which must be protected by a self-retaining catheter or drainage of the urine through the upper wound. Calculi in the cavity of the true pelvis can be reached by the vagina or abdominal wall from just above Poupart's ligament, with the great disadvantage of a small field for the later treatment of the ureter. Whether the ureteral occlusion should be at once removed depends on its accessibility and the general condition of the patient. Often it is best to fulfil only the vital indication, relieving the pressure on the organ and the onset of uremia. At a second sitting the ureter can be thoroughly investigated. Great care must be exercised not to be content with removing the first palpable and perhaps movable stone, because it may not be the true offender, whether we are dealing with the exposed ureter or seeking to determine which side in bilateral trouble was primarily affected. The decision on this last point is exceedingly difficult for occlusion occasionally begins without colic; the pain may be definitely referred to the opposite side; the thickness of the abdominal walls and the onset of tympanites may cloud the physical signs; a palpable tumor may be an old hydronephrosis without symptoms, whereas the invasion of the opposite side without a tumor may be the condition; focal tenderness and reflex muscular rigidity are the best single signs but fail often. The same uncertainties apply to cases of ureteral stone within reach from the vagina and rectum. Above all the operation must first expose the kidney, not the ureter alone for a stone in it, because only in this way can a destroyed or reflexly inhibited kidney, as well as occlusion of the channels, be fully known. If the wrong side has been approached, a day's delay before attacking the diseased side is necessary, unless uremia be present even in slight degree.

CZERNY (Heidelberg) said he has given up pyelotomy in favor of nephrotomy because the former leads to fistulæ too frequently. Twice he had found calculi at the distal end of the ureter, one came away spontaneously, the other required cystotomy. One of his patients died of uremia after removal of a stone from the left side. The autopsy showed occlusion and multiple calculi on the right.

KRÖNLEIN (Zurich) uses the radioscope and exploratory incision of the abdomen for diagnosis.

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KOLACZEK (Breslau) reported a case of stone at the beginning of the ureter complicated by an extra-uterine pregnancy which was operated on at a second sitting.

ZONDECK (Berlin) pointed out that the renal substance should be cut ½-¾ cm. dorsally because the pelvis is behind the vessels and is, hence, more freely opened.

KUMMELL (Hamburg) read a paper on the diagnosis of the functional activity of the kidneys before operative interference. Catherization of the ureters has usually succeeded, without any instance of infection in his hands, but its significance is often difficult to determine. From one patient he obtained tuberculous urine from one and purulent from the other kidney. The former was removed and the latter finally recovered. The determination of the total urea is necessary. Alike from both and from each kidney individually. A comparison of the freezing points with those normal for the blood, the urine and the other body-fluids, often aids as variations in urea-excretion affect them to a marked extent.

BARTH (Danzig) reported a case of gangrene of the kidney and another of embolism of the lung in a paper on the diagnostic incision of the kidney. ISRAEL was of the opinion that gangrene usually is due to unduly firm suture of the capsule.

REISINGER (Mainz), speaking of the treatment of hydro-nephrosis, reported a case of congenital condition in which the kidney was situated at the promontory of the sacrum with its lower pole 3 cm. away from the bladder. After draining the collection of fluid away an anastomosis was made between the bladder and the thinned-out kidney by an inner continuous row of sutures, including the thickness of the kidney and bladder, and by an outer similar line taking in the peritoneum only. Complete recovery and good function of the kidney resulted.

SOCIETY PROCEEDINGS.

AMERICAN CLIMATOLOGICAL ASSOCIATION.

Seventeenth Annual Meeting, Held at Washington, May 1, 2, and 3, 1900.

The President's Address.—Dr. Abraham Jacobi of New York called the meeting to order and delivered the introductory address. The subject was "Cardiac Murmurs, Functional and Organic, in Infancy and Childhood." (See MEDICAL NEWS, p. 729.)

The Modern Physician's Duty to His Tuberculous Patients.—A paper on this subject by Dr. Frederick I. Knight of Boston was read by title. The following points are emphasized: (1) To make a positive diagnosis as early as possible. (2) To inform the patient of the gravity of the situation; not that he is consumptive, but that he is tuberculous and liable to become consumptive; but also that he has a good chance to recover if he pursues the right course. (3) To put the patient at once on the best road available in his particular case for an effort at recovery. This must vary immensely according to the nature of the case, the character of the patient, his family and other relations, and his financial condition. The physician should make up his mind, if possible, exactly what course to advise without discussing pros and cons of different propositions with the patient, but possibly consulting other members of the family. This involves the study of the whole question of residence at home or abroad, in a sanatorium or out of it, partial or total relinquishment of business, etc. (4) To provide that the patient shall be all the time under the care of a medical man familiar with the modern treatment of such cases.

The Construction and Management of Small Cottage Sanatoria for Consumptives.—Dr. Arnold C. Klebs of Chicago advocated concerted action of a national character with an underlying, carefully-studied plan to bring about lasting results. He described the work of the Pennsylvania Society for the Prevention of Tuberculosis and the Society recently organized for this purpose in Chicago, and referred to various sanatoria in the United States and abroad. Dr. Klebs insisted that, in addition to the usual regimen, institutions should provide an adequate occupation, *e. g.*, games, entertainments, lectures, etc., to relieve the monotony of the life in such institutions, and should not fail to provide some kind of work that may be useful to the patient after his discharge. Gardening, carpentering, and work in a manual training-school were suggested. Great stress was laid on the importance of an abundant pure air supply. The distinct advantage of certain climates, especially those of high altitude and southern latitude, over others nearer to the chief centers of population has often been claimed but never been conclusively demonstrated. The demonstration that equally good results are possible from the treatment at home, or near home, is to be received as a great blessing. Sunshine, rain and wind are the great natural purifiers of the atmosphere. It is easier to secure good, wholesome food near the cities. Dr. Klebs showed plans of several Continental sanatoria and also original plans prepared with the assistance of Mr. J. Gamble Rogers, architect, of Chicago, which were considered to be an improvement on those heretofore employed. The capacity is for 25 patients. The plan embraces three cottages, joined by two galleries. Dr. Klebs has been able to keep patients out-of-doors through the winter in Chicago where the season is not renowned for its mildness. Dr. Klebs is a believer in the use of water as an adjunct to treatment.

The antituberculosis movement which is now sweeping over the civilized world, led by crowned heads and supported by distinguished men, to be of lasting benefit must have a more substantial basis than the mere education of the public through written or spoken advice. The appeal for the erection of sanatoria should not be put at

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the end of the program. Tuberculosis will never be stamped out by indirect measures alone. Improvements in public hygiene and the spreading out of the population of cities to rural districts by means of improved transportation will be a great aid in its limitation.

Dr. Stubbert of Liberty, N. Y., spoke strongly in favor of the cottage plan of hospital construction for the tuberculous and said that these patients do not like to be thrown too closely together. He does not employ exercise very much in the treatment, but had been on the watch for agreeable diversions out-of-doors. Amateur theatricals had been tried with success. The patients rehearsed out-of-doors and their minds were pleasantly occupied and diverted from their ailments.

Dr. R. C. Newton of Montclair advocated the plan of moving about, tramping, and especially the undertaking of a driving-tour as practised by the late Dr. Henry I. Bowditch.

The Degenerative Results of Deficient Ventilation.—This paper was read by Charles Denison, M.D., of Denver. After a general description of man's needs of air and the sources of impurity that he encounters, Dr. Denison claimed that there was something more needed to secure perfect ventilation which he termed "the life of the air;" that there is a vitalizing principle whose force is annulled by the imprisonment of the air by defective ventilation. This life of the air exists chiefly in its motion, which, with light, heat and electrical power, comes from the sun. Dr. Denison instanced the air of the Mammoth Cave in Kentucky as the deadest air he ever breathed, and he quoted largely from Dr. Angus Smith's work on "Air and Rain" in which are detailed investigations on similar lines.

Dr. Denison believes that tuberculosis has come here to stay and that it springs from, or is the outgrowth of, some unified cause which will account for its existence in cattle, horses, birds, and man. Legislation is needed to limit the minimum ventilation allowable in every place of assembly and for dairy-cows, horses, etc. The minimum of space for a living apartment should be 1500 cu. ft. per individual and a minimum ventilation, or change of air, of 2000 feet per hour per person. A course for the study of ventilation should be made a prominent feature in all advanced schools and colleges and the Government should carry out the many investigations which will help to determine both the best means and the proper and necessary limits of ventilation. This is one of the ways in which a National bureau or board of health could prove itself most useful. Dr. Denison urged the maintenance of a commission on ventilation of houses, public schools, factories and mines.

Dr. R. J. Curtin of Philadelphia suggested that the climate of Denver is changing and that the air is not so dry as formerly. The sprinkling of streets and the planting of trees and subsequent irrigation and increase of running water no doubt effect the quality of the air.

Dr. Denison, who had seen the population of Denver grow from 16,000 in 1873 to 170,000 in 1900, stated that he had nine or ten cases of tuberculous meningitis, a much larger proportion of cases of this affection than he would be likely to meet elsewhere.

Dr. James A. Hart of Colorado Springs could call to mind only one case of undoubted indigenous tuberculosis.

Some Phases of the Tuberculosis Problem in Colorado.—Dr. S. G. Bonney said that there has developed an increasing popular prejudice against the ordinary association with the consumptive and a beginning sentiment against the further importation of individuals afflicted with the disease, amounting to a somewhat ill-proportioned and ignorant crusade. There result embarrassing difficulties in the way of securing adequate accommodations for the consumptive, with much unnecessary humiliation, with lack of moral encouragement, to those entitled to every sympathetic consideration.

Dr. Bonney is in hearty sympathy with the health authorities and has contempt for the indifference of those who refuse to coöperate in the rigid enforcement of regulations tending to the restriction of the disease; but he is not in sympathy with an agitation not warranted by the facts and tending to create alarm. He is unable to accept the evidence presented to substantiate the alleged increase of consumption contracted in Colorado, as the data are altogether too meager to warrant such conclusions. The fact is that the actual number of cases originating in Colorado is not increasing in proportion to the population. In 1893 these numbered 49; in 1894, 51; in 1896 but two more than in 1895 and but 17 more than in 1893, in spite of an increase in that time of 26,000 in population; in 1899, despite an increase of 50,000 in population since 1893, the number of cases is but four more than in 1893 or .30 per cent. in 1899 compared with .36 per cent. of total population in 1893. Dr. Bonney believes that a factor of no inconsiderate importance is the strong inherited susceptibility of a portion of the younger population in Colorado. During the past seven years of all the cases reported to have died from tuberculosis contracted in Colorado nearly one-fourth were in children under four or five years of age, 85 per cent. of whom died of tuberculous meningitis. Dr. Bonney believes that the first requisite should be compulsory notification and a properly-conducted registration of all cases of tuberculosis. This not to imply isolation, personal humiliation or interference with social or business pursuits; quarantine for such a disease is neither desirable nor practicable in the interest of either the consumptive or the general community. The question of legislative interference with marriage and other matters involving the liberty of the consumptive and disturbing his relation to his family and society should receive no mention in official public communications as being at present both impracticable and unwarranted. It is more properly within the

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province of the physician in his advisory capacity to expect such an influence as may be justified by individual circumstances.

Stomach Conditions in Early Tuberculosis.—Dr. Boardman Reed of Philadelphia said that in the incipient stage of tuberculosis flatulent dyspepsia with eructations and pyrosis, or heartburn, with or without gastric pain or nausea, are common symptoms. They may be due to lowered nerve tone or may be evidences of actual gastric involvement. Hyperchlorhydria and acid gastric catarrh are quite as compatible with a tuberculous infection as are the asthenic types of gastric disease. Clinical experience shows that in early tuberculosis there is present very frequently a condition of the peptic glands which contraindicates the administration of any considerable doses, by the stomach at least, of highly-stimulating remedies, such as carbolic acid, creosote and its derivatives, the mineral acids and most of the familiar stomachics. Dr. Reed cited a case which illustrated this and which also showed how tuberculosis for a long time may masquerade in the guise of a stomach-trouble. As to creosote different opinions of its usefulness are held by clinicians of equal ability. Whether the remedy does good or harm depends mainly on the condition of the stomach. Recent experiments prove that the oils markedly lessen the secretion of hydrochloric acid in the stomach. In the cases, therefore, in which the gastric functions are almost always depressed, as in the later stages of phthisis, cod-liver oil or much fat of any kind impairs digestion and injures the patient; whereas in cases of hyperchlorhydria, which are so often found in the earlier stages, the same remedy exerts a double influence for good, since here it tends to correct the injurious hypersecretion at the same time that it helps to fatten and strengthen the patient. In intermediate cases a moderate amount of oil may prove helpful for a time. An occasional analysis of the stomach contents may guide as to its further use. In doubtful cases, in which analysis of the stomach contents is not practicable, as well as in cases in which the gastric juice has been found to be about normal, Dr. Reed approves of combining creosote or one of its congeners with cod-liver oil so as to have the stimulating properties of the former neutralize the depressing influences of the latter upon the peptic gland. Another point made was that the muscular walls of the stomach lose their tone and there results a tardy evacuation of the contents with consequent stagnation and fermentation. This weakened motility must be overcome before tuberculous patients can get well. Instead of drugs, breathing exercises, especially in the open air, as hill-climbing, bicycling and rowing, are highly curative in conjunction with a diet which is at once digestible, nourishing and not too bulky. Massage of the abdomen can also do great good, except when the gastric glands are irritable and inclined to overaction. Intragastric faradism was advised.

Value of Tuberculin Test in Diagnosis of Pulmonary Tuberculosis.—Dr. J. M. Anders of Philadelphia read this paper. He said the extreme desirability of clearing the nature of latent forms and dubious cases by precise methods prior to the appearance of obvious signs and symptoms or the finding of the specific organism of the disease is universally conceded. Tuberculin holds a place with the Röntgen rays in diagnosticating pulmonary tuberculosis in its incipiency. Dr. Anders cited three cases in which the test was of great value. In the first, a lad of fourteen years, who had always been in delicate health, there was a history of four weeks of symptoms that were distinctly typhoidal in character and later a positive Widal reaction was obtained. At the first visit a physical examination revealed only a phthisical thorax. After the fever had declined an injection of 2 mg. of tuberculin gave a positive reaction. An X-ray photograph was then taken and showed slight, though decisive haziness. In the second case the diagnosis was made by tuberculin and at the necropsy six weeks later miliary tuberculosis following Pott's disease with beginning psoas abscess was found. In the third case, which occurred in a young man, aged nineteen years, fluoroscopic examination of the thorax and repeated examination of the sputum gave a negative result. Injection of 1 mg. of tuberculin responded positively. This patient's sputum afterward showed tubercle bacilli. The author believes that the reported failure of dubious cases to react may be due to error of administration. In his own experience a few failures would have resulted had he not increased the dose beyond the usual maximum. It is a well-established fact that a small percentage of cases of undoubted tuberculosis, especially advanced forms, have been found to be non-reactive. There are doubtless varying degrees of individual susceptibility to the action of tuberculin and it is likewise well known that cases of bone- and joint-tuberculosis require larger quantities than other forms of the complaint. Again, when reaction occurs in apparently healthy individuals, it has been pointed out by Trudeau that we should not forget that autopsies made on persons dying of other diseases show unsuspected foci to exist in from 30 to 40 per cent. of those examined. An imperfect reaction is also obtainable in certain cases of sarcoma, carcinoma and syphilis. Dr. Anders exhibited tables carefully prepared to show the practical utility of the test. Doubtful and undoubted cases were carefully separated. The percentage of reactions in patients known to be tuberculous was 78.36 per cent., while 71.89 per cent. of the suspicious cases also reacted. The more recent and extensive clinical tests in widely-separated parts of the world by competent observers have resulted in a practically unanimous verdict which emphasizes its superior value as an aid to diagnosis of incipient cases and in no small degree its apparent harmlessness. Dr. Anders has never noted personally or in recorded cases any bad effects, except in one case of Addison's dis-

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ease cited by Head, in which a fatal termination occurred thirty-six hours after the injection of 24 mg. of tuberculin.

Dr. Quimby of New York advocated the use of tuberculin for diagnostic purposes and stated his belief that the unfavorable opinion formed from its use when first announced was due to the larger dose employed, *viz.*, 10 mg.

Dr. Denison inquired what should be designated as a characteristic reaction.

Dr. A. C. Klebs said that different tuberculins gave different reactions and that there should be a standard tuberculin in order to get definite and comparable results.

Dr. J. W. Brannan of New York had used tuberculin at the Hospital for Ruptured and Crippled in tuberculosis of joints and in arthritis of the joints and had found the test valuable.

Dr. E. R. Baldwin of Saranac said that 2 mg. in a joint case is a rather small dose; that it requires a larger dose in tuberculosis of joints than in pulmonary cases.

Stamina.—Dr. A. M. Bell of Brooklyn read a paper entitled "Stamina: With Special Reference to the consumption of Fat Food for Its Maintenance as a Preventive of Tuberculosis." Dr. Bell stated it as an axiom that the power of resisting the ordinary exciting causes of illness, including pathogenic microbes, depends upon one's state of health. Feebleness predisposes to disease. As to abstemiousness, one may overeat and yet abstain from some essential food necessary for the maintenance of health. Dr. Bell claimed that, other conditions being equal, tuberculous diseases are prevalent inversely to the use of fat of some kind as an article of diet. Inability to digest fat food is one of the features of the pretubercular stage. Tuberculous patients are liable to a dyspepsia due to the too exclusive use of farinaceous food. Dr. Bell advised the fuller use of butter and bacon. Fat is the chief article of diet in the Arctic regions. The Esquimaux who live on "toodnoo," a kind of butter made from the separated fat of reindeer, are nearly exempt from tuberculosis. Furthermore their resistance to fatigue and general muscular power is very great. Dr. Bell attributes the increase of tuberculosis among the American Indians to the gradual increase of farinaceous food as an article of their diet. The Gauchos of the South American pampas and the flesh-eating Mahometans of India were instanced as examples of powerful development by reason of their liberal diet of animal food. Dr. Bell claimed that meat should contain the natural blood of the animal and should not be allowed to drain away in slaughtering, as is sometimes practised.

During Dr. Bell's professional career, extending over a period of nearly sixty years, he has rarely known a family or an individual that was brought up on a liberal supply of butter and bacon to become tuberculous. The "hog and hominy" of the negro dietary in the days of slavery was a safeguard against tuberculosis, but their food has changed and consumption is ripe among them. Pork and bacon is not now a favorite or common dish among them. Everybody has learned that cod-liver oil is good for consumptives, but few seem to have learned that food of the same character, suitable for the table, is preventive of consumption.

Aneurism of the Heart with Thrombosis of the Left Coronary Artery.—Dr. Judson Daland of Philadelphia cited the case of a man, aged fifty-four years, who contracted syphilis twenty-seven years before death and one of whose children now shows signs of having inherited this disease. Two years before death an ulcer appeared upon the side of his tongue, extending from the top to the base, which yielded to specific treatment. He was a chronic alcoholic for thirty years. While in apparent good health he suddenly became unconscious, with marked cyanosis and coldness of the extremities, loss of radial pulse, indistinguishable heart-sounds, shallow respiration, contracted and non-responsive pupils, frequent desire to urinate, and great thirst. Death resulted in twenty hours. The autopsy showed dilated hypertrophy of the left ventricle, partial dilatation of the apex region of the left heart, the size of an English walnut, a large area of fibroid degeneration, especially envolving the interventricular septum; recent and old thrombi; localized and firmly adherent pericarditis; almost complete occlusion of the orifice of the right corner of the artery; extreme deforming endarteritis of both coronary arteries almost completely obstructing the right coronary and thrombosis of the left coronary artery.

Dampness of Soil as a Factor in the Production of Human Tuberculosis.—This was the title of a paper read by Richard Cole Newton, M.D., of Montclair, N. J. The author gave the histories of four families which came under his personal care in all of which there was no family history of phthisis; they represented American (1), German (1), and Irish (2); there were from two to ten cases of tuberculosis in each of these families. In all instances the houses were very damp and generally unhygienic. Dr. Newton believes that something besides direct contagion by the reception of the tubercle bacilli is necessary to establish the morbid process which is known as phthisis pulmonalis. He cited Squire and Kanthack who note the behavior of certain animals, such as guinea-pigs and white mice, which are ordinarily resistant to avian tuberculosis but can easily be infected after being kept for a time in a warm chamber at 33°-35° C. The struggle is, therefore, to be for sanitation rather than disinfection and isolation, against the surroundings of a people rather than against a microbe which can grow only when a predisposition is set up. The results of sanitarium treatment have been practically identical so that while a life in Colorado is desirable, it is not necessary in order to save at least a third of our incipient cases of phthisis. While sunlight and life in the open air, pure

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milk and a wholesome occupation are necessary, a dry, properly-constructed cellar is just as essential to the alteration of the predisposition, so that the bacillus of Koch cannot gain a foothold in the human organism, as any of the means named. They should live away from swamps, cesspools, sluggish streams and all stagnant and unwholesome bodies of water. The question resolves itself into one largely of drainage.

Dr. Leonard Weber of New York referred to the insanitary condition of the tenement-house districts of New York. These must be gotten rid of if the disease is to be controlled. Dampness lowers the vital resistance but does not necessarily increase the susceptibility to infection.

Dr. N. S. Davis, Jr., of Chicago spoke of the unfavorable influence of bad ventilation not only of rooms but of the human lungs. Dr. C. L. Minor of Asheville said that while tuberculophobia has its utility it has grown excessively without a corresponding product of prophylactic measures. He referred to the negro huts of the South and the fact that the negro washerwomen sometimes become infected by washing the clothing of the sick people who frequent the resorts. The better classes of the population are also careless. As a rule the public are under-aerated. They should not be alarmed unless in a practical way. Physicians should look after their patients in this respect while they are well as well as when they are ill.

Dr. E. R. Baldwin of Saranac Lake said that the reason why damp houses favored the propagation of tuberculosis was because of the general law that moisture keeps the tubercle bacillus alive, while dryness kills it.

Dr. Daland of Philadelphia who had visited Iceland, referred to the recent spread of tuberculosis through the island which previously had been largely exempt. The bacilli were introduced from Norway and their propagation was favored by the dampness, the fogs and winds and the absence of light for long periods.

Subsequent History of Patients Apparently Cured by Antitubercle Serum.—A paper on this subject was read by Dr. J. Edward Stubbert. This was a further report on patients whose history was given two years ago. None of these cases have relapsed and marked improvement has resulted in 78 per cent. of the cases. Details of the cases were given in full.

The Phlebitis of Advanced Phthisis.—This paper was read by Dr. R. G. Curtin of Philadelphia. Several cases were reported which apparently showed the traumatic origin of tubercular disease. Blows and falls are not unusual causes and prize-fighters are liable to the disease.

Dr. R. C. Newton of Montclair questioned whether the proportion of cases of pure tuberculosis was large in the latter class. They were men frequently of very intemperate habits and liable to syphilis.

Dr. Babcock of Chicago, Dr. Coleman of Augusta and Dr. J. M. Anders of Philadelphia reported cases of phlebitis in phthisis.

Dr. Norman Bridge of Los Angeles cited the case of a man, twenty-six years of age, who had had tuberculosis of the left lung for two or three years and then developed an ideal phlebitis of the right groin extending downward, with pain, fever, swelling, and tenderness. A similar condition set in upon the opposite side and pursued an identical course.

Intrapleural Injection of Nitrogen Gas in Tuberculosis.—Dr. H. P. Loomis of New York read a paper on this subject. He has found nitrogen gas free from all objections, and almost non-absorbable after a lapse of from three to six months. All the general symptoms improve after its use, the expectoration is lessened, the appetite improves, weight increases and hemorrhage is invariably stopped. It does not cure but arrests the progress of the disease. That pressure on the affected lung is of advantage may be inferred from the fact that in cases of advanced tuberculosis with fluid in the pleural cavity, if removed by tapping, death often quickly follows. Three-fourths of the cases of primary pleurisy are tubercular. Dr. Loomis has never seen any bad results in any case treated by injection of nitrogen gas. One hundred to two hundred cubic inches may be used. If introduced into the left pleural cavity the heart is displaced beyond the median line. The respiration-rate is increased and the pulse-rate lowered. In one case he observed subcutaneous emphysema and the patient became excited and talkative.

Dr. H. L. Taylor of St. Paul reported an unfavorable experience in over a dozen cases and only temporary improvement in one case and he found that in no case did the splinting of the lung amount to anything at the end of two months.

Dr. R. H. Babcock of Chicago supported Dr. Loomis and reported that in the majority of cases treated in Chicago the results were satisfactory, improvement following in a majority of cases. He reported a case in which the symptoms were arrested after injections at intervals of four or five weeks for a year and the patient in the meantime was under the most unfavorable domestic surroundings.

Dr. Charles Denison of Denver referred to his method of strapping the chest with plasters on the affected side. These were held in place by being carried to a collar on the opposite shoulder. He corroborated the power of these measures to stop hemorrhage and lessen the size of a cavity.

Dr. J. Edward Stubbert has used nitrogen gas in hemorrhagic cases with success. The lung must be absolutely compressed or failure will resule.

The Hydriatic Treatment of Tuberculosis.—Dr. J. H. Kellogg of Battle Creek read this paper. It will appear in a future issue of the MEDICAL NEWS.

Splenic-Myelogenous Leucemia with Pulmonary Tuberculosis.—This was the title of a paper by Henry L. Elsner, M.D., and William A. Groat, B.S., of Syracuse, New York. The combina-

tion of pulmonary tuberculosis and leucemia is exceedingly rare; in the terminal stages of pseudoleucemia far-reaching tuberculous changes in the various organs of the body are frequently found. The case reported by Dr. Elsner was in an Irishman, a baker, aged forty years, with a distinct alcoholic history. There was malaise with increasing weakness, and a dragging sensation with pain and prominence of the abdomen. He grew pale and sallow and had night-sweats. Cough set in and he developed pleurisy without effusion. Tubercle bacilli were found in the sputum after February 20, 1900. The abdominal symptoms were due to an enormous spleen and an enlarged liver. The posterior upper portion of the left lung was consolidated. In the upper half of the interscapular region on the right side there was cavernous breathing. In the anterior surface of the posterior laryngeal wall there was deep tuberculous ulceration. The blood-counts between January 25th and April 16th, 1900, showed from 3,320,000 to 2,922,000 red cells and from 320,000 to 121,500 white cells per cubic millimeter. The hemoglobin decreased from 62 to 55 per cent. (Gowers). The red cells were pale and there were numerous megaloblasts. The myelocytes ranged from 38 to 16 per cent. and brand the case as one of splenic-myelogenous leucemia. There was a gradual and steady decrease in the total number of leucocytes but an increase in the percentage of polymorphonuclear neutrophiles, a decrease in the number of myelocytes and an increase in the number of lymphocytes as the tuberculous process advances. The interesting point is that with added infection of whatever nature there is likely to be a marked reduction in the number of leucocytes. Dr. Elsner summarized the cases of Quincke, Stintzing, Lichtheim and Baldwin, the only other cases on record so far as known.

A Case of Mural Endocarditis.—Harold Williams, M.D., of Boston read this paper. The case was one in which there were no murmurs in spite of extensive disease of the mitral valve. The patient, a woman, aged fifty-four years, had angina pectoris with dyspnea coming on after a short walk. She was put to bed where she remained until her death, a little less than three months later. During this period she had recurrent attacks of intense dyspnea, loss of pulse and collapse. Consciousness was retained throughout the attacks. The attacks became almost continuous but were invariably without pain, and the usual remedies quickly failed in turn to give more than transient relief. At no time were murmurs detected by any of the physicians in attendance. The autopsy showed a serous pleural effusion of the left side, a clot in a branch of the left pulmonary artery causing consolidation of the corresponding extent of lung tissue. The heart weighed nearly twice the normal amount. The mitral orifice was of normal size. The flaps showed slight diffuse thickening. The chordæ tendinæ were generally thickened and shortened in such a manner as absolutely to preclude closure of the valve. The endocardial surface of the ventricular wall below the posterior mitral flap was thickened, white and very opaque. The left coronary artery showed nodular projections throughout its course but none showed calcification. The right coronary from its origin showed a sudden diminution in size and was transformed into a fibrous chord through which the canal could not be followed. Microscopic examination of the affected area in the wall of the left ventricle showed a proliferative endomyocarditis. The case was one of generalized arteriosclerosis, affecting vessels of medium and small size particularly.

Dr. W. S. Davis, Jr., of Chicago reported a case of malignant endocarditis which had recovered, an occurrence which he had never previously witnessed. The patient was a man, twenty-eight years of age. The onset was slow and the fever was persistent. It was of obscure origin.

Dr. J. W. Brannan of New York reported a case of absence of murmur in spite of marked lesion of the mitral valve. The patient died very suddenly and at the autopsy the mitral valve was found markedly contracted. The patient first had a systolic murmur, then a presystolic murmur, and for a month before death there was no murmur whatever.

Dr. Jacobi of New York referred to a case in which there were remnants of endocarditis, small exudations with hard circumscribed deposits and slight thickening of the edge of the valve, but absolutely no murmur could be heard. In children particularly the diagnosis is liable to be difficult. In malignant endocarditis there may be large coccus deposits but no murmur, especially when the deposits are along the insertions of the valves. When the deposits are on the edge of the valves there is a murmur.

Dr. R. C. Newton of Montclair said that in the experience of Dr. E. G. Janeway, out of twelve cases that he had seen, one had recovered and in that case the condition was due to gonorrhea.

Dr. S. A. Fisk of Denver reported on some favorable terminations of endocarditis. In one of these, a child, an endocardial murmur was the first indication of a diphtheria; recovery from the cardiac lesion is complete. In Colorado physicians do not lay such stress on its being an unfavorable symptom as they formerly did.

Dr. R. H. Babcock of Chicago stated that we know very little about the cause of murmurs. They are useful guide-posts that point out the way to correct understanding of a given case. In functional cases they are not very important and we must rely on the secondary physical signs. An aortic diastolic murmur may be absent in aortic insufficiency.

Dr. Williams, in closing, said that no bacteriological examination was made in his case.

Exercises Suitable for Children Suffering From Heart Disease.—J. Madison Taylor, M.D., of Philadelphia made a plea for regulated movements, such as massage and the so-called Swe-

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dish movements. Passive movements have a value out of all proportion to the results obtained by voluntary exercise. By passive movements we improve the peripheral circulation and promote central changes of a restorative nature. Medicines fail in many cases in which passive exercises accomplish much good. Dr. Taylor cited cases in support of his position.

Dr. Abraham Jacobi, in the discussion, said that it is impossible to relieve the heart when there is no peripheral circulation. The skin contains a large part of the blood of the body distributed through the fourteen, fifteen or sixteen square feet of the adult surface. Friction does good and when the circulation in the skin is reestablished the heart is relieved. He advocated rest and cold-water treatment. Under their use the dilated and hypertrophied heart grows smaller. By rest the myocardium has a chance to improve. Dr. Jacobi employs rubbing, massage, caffeine and strychnia in such cases. Massage should be administered by physicians or by those who know the anatomy of the muscles and lymph-ducts and who know how to use their fingers where others use their hands indefinitely. The muscles are too much neglected.

The Nervous System in Pulmonary Phthisis as a Basis for Treatment.—Thomas J. Mays, M.D., Philadelphia, read this paper. The author holds that phthisis is an exhaustion of the vital forces of the body in which loss of appetite, fever, night-sweats and other well-known symptoms accompany or precede the earliest implication of the pulmonary organs; he believes that the original trouble in the great majority of cases lies in the brain and nervous system and particularly in the pneumogastric nerves. That the vagi are primarily involved in phthisis Dr. Mays has shown in rather a large collection of cases in which confirmation was made *post-mortem*. Holding these views as to the etiology and pathology of phthisis, Dr. Mays discards all the usual remedies and employs those measures which stimulate the nervous system, such as strychnine, static electricity, quinine, capsicum, *etc.* He also employs massage of the vagi in the neck and subcutaneous injections along their course. The dose thus used was five minims of a two-and-a-half-per-cent. solution of silver nitrate, preceded by a similar dose of a cocaine solution. The technic was described. Dr. Mays has used silver nitrate injections in about two hundred cases of phthisis during the last nineteen months. The results were gratifying, the cough and expectoration were greatly relieved or ceased altogether, dyspnea and oppression of the chest were relieved; vomiting increased in a marked degree; the general strength improved. The effect on the physical signs was equally gratifying. This was particularly true of the gain in body weight. Dr. Mays believes that if this auxiliary method is combined with other good hygienic, dietetic and medicinal treatment the practical results will be greater than without that method, and he claims that the nervous system is the principal avenue through which pulmonary phthisis may be successfuly approached from a therapeutic standpoint.

The Inadequacy of the Physical Signs as Indicating the Gravity of a Pneumonia.—Andrew H. Smith, M.D., of New York read a paper with this title. The actual degree of involvement in a case of pneumonia is not always easily determined and the autopsy frequently brings unexpected revelations. The faintness of the respiratory murmur in health and the presence of overlying fat may obscure the initial crepitus as well as the later percussion dulness. Furthermore, the area of consolidation often falls far short of the area in which the toxin is being found. This outer zone may not present notable signs but is actively engaged in the formation of toxin and in this situation their virulence is greater than is shown in the cause of cultures taken from the center of the consolidated area. Preexisting morbid conditions, such as chronic kidney-disease, cirrhosis of the liver and pulmonary tuberculosis, exert a very unfavorable influence on the progress of a pneumonia. Consequently, too much stress should not be laid on the physical signs in estimating how sick the patient really is. Once the diagnosis is established the patient ought not to be exhausted by repeated physical examinations and consultants should, as a rule, accept the result of previous physical examinations and base advice on the general symptoms and aspect of the case.

The Association elected the following officers for the ensuing year: President, Dr. R. H. Babcock, of Chicago; first vice-president, Dr. A. C. Peale, of Washington; second vice-president, Dr. S. W. Langmaid, of Boston; secretary and treasurer, Dr. Guy Hinsdale, of Philadelphia; member of Council, Dr. Abraham Jacobi, of New York.

It was decided to leave to the Council of the Association the choice of the place and date for the meeting of 1901.

THERAPEUTIC HINTS.

Cardiac Stimulant.—

1. ℞ Liq. strychniæ (Br.).....m ii
   Ext. cocæ fl.....m xv
   Spts. chloroformi.....m v
   Aq. cinnamon q. s. ad.....ʒ ss.

M. Sig. Dose to be administered every four hours in a child of from eight to twelve years of age.—*Burney Yeo.*

2. ℞ Spts. artheris comp.....mx
   Tinct. nucis vom.....mv
   Tinct. lavand. comp.....mx
   Aq. carni (Br.) q. s. ad.....ʒ ss.

M. Sig. Give every four hours, or as required, to child of from eight to twelve years of age.—*Burney Yeo.*

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H. O. WALKER, M.D.
Wm. C. WOODWARD, M.D.
W. E. B. DAVIS, M.D.
L. DUNCAN BULKLEY, M.D.
W. W. KEEN, M.D.
EDWIN ROSENTHAL, M.D.
LEON L. SOLOMON, M.D.
H. V. WÜRDEMANN, M.D.
CHRISTIAN R. HOLMES, M.D.

American Medical Association—June, 1900.

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THE MEDICAL NEWS.

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ADDRESSES.

THE PRESIDENT'S ADDRESS.[1]

BY W. W. KEEN, M.D.,
OF PHILADELPHIA.

Two duties seem to me to devolve on the President of the American Medical Association in his annual address: (1) To consider the condition of the Association, with any suggestions that may be made for improvement, and (2) to take up some subject of professional interest which may be properly considered before the chief representative medical body of the United States.

In pursuance of the former, it is a great pleasure to me to congratulate the Association on its marked prosperity. The American Medical Association now numbers about 9000 members. A large number, truly, but when we consider that there are over 100,000 regular physicians in the United States, it is strange and anomalous that this Association should comprise less than one in ten of these physicians. I call your attention to this important matter in order that every member of the Association during the coming year shall try at least to induce another fellow physician to join the Association and thus double its influence for good.

Journal of the American Medical Association.—One of the most important functions of the Association is the publication of *The Journal.* Here, again, I have only words of encouragement. The number of subscribers to *The Journal* is about 15,000—a number, undoubtedly, in excess of that of any other medical journal in the United States, and I suspect only surpassed by the *British Medical Journal,* which publishes over 21,000 copies weekly. But it is not only on the number of subscribers that the Association is to be congratulated, but especially on the quality of the papers published in *The Journal.* It is, however, not only idle words of vague praise that we should bestow on the trustees and the able editor of *The Journal,* but we should recognize that never before in the history of *The Journal* has it been so well conducted, its pages so filled with admirable original articles and its influence for everything that makes for the best in medicine so potent as at present.

The Rush Monument Fund.—Dr. Albert C. Gihon resigned at the last meeting as the Chairman of the Rush Monument Committee. It seemed to me that his successor should be a physician rather than a surgeon, and from Dr. Rush's native city. Accordingly, I appointed Dr. James C. Wilson to the vacancy.

The Committee report actually in hand a little over $11,000. This sum is too large to go backward, and it is not enough to go forward. In the hands of various State organizations, and possibly others, there are several thousands of dollars, I believe, which have been pledged to this fund. I recommend that action be taken, looking to the early completion of the fund. All the more is this suitable, when we remember that there will be erected in the city of Washington this year, or early next, a costly monument to Hahnemann, for which Congress has given a site.

The Antivivisection Bill.—Early in the session of the present Congress, there was introduced into the Senate, bill No. 34, commonly called the "antivivisection bill." The immense detriment that this would work both to man and animals was so evident that I deemed it my duty as your President to take the most active steps to prevent its becoming a law. I sent out letters to the president and secretary of every State medical society in the country, to prominent members of the profession in every State, to a large number of influential men in the profession all over the country, and to college presidents, and others who could direct public opinion, and by all means in my power strove to arouse a public sentiment against the bill. I wish to bear public testimony to the enthusiasm and the unanimity with which my appeals were received. The profession in every part of the country responded nobly and exercised a wide and, I believe, an enduring influence on senators and representatives in establishing and confirming their judgment against the inhumanity of any such bill.

In response to a communication addressed to the chairman of the Senate Committee on the District of Columbia, a hearing was granted in Washington before the subcommittee having charge of the bill, at which both the friends and the opponents of the measure were present and presented their arguments. Among those who spoke against the bill were Drs. William H. Welch,[1] Henry P. Bowditch, H. A. Hare, William Osler, Mary Putnam Jacobi, George M. Kober, Howard A. Kelly, D. E. Salmon, Brig.-Gen. George M. Sternberg, Surgeon-General U. S. A., Bishop Lawrence, of Massachusetts, and myself. Certainly a more able array of speakers could hardly have been obtained, and I wish in your name, and in the name of humanity, to thank them for their self-sacrificing help.

Although in two prior Congresses the Committee on the District of Columbia had unanimously reported in favor of the bill, I am happy to say to you that the present committee has so

[1] Delivered at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

[1] The Journal, May 19th and 26th.

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far changed its views that I have reason to believe that the bill will either slumber in committee or be reported negatively. While it is to be hoped that this is the end of the present bill, it is by no means certain that it is the end of the agitation of those who are so blind to the progress of medicine and, therefore, to the dictates of humanity, but, I have no doubt that the effort will be renewed at some future time. If this should take place, I commend to the then President of the American Medical Association the duty of opposing the bill with all the vigor which he can use.

Among the important contributions to antivivisection literature evoked by this discussion, none is more valuable than the letter addressed to the Chairman of the Committee on the District of Columbia, in opposition to the bill, by President Eliot, of Harvard College, which was presented to the readers of the MEDICAL NEWS in the issue of May 26th, page 832.

Coming from such a high source, I can not but feel that it will carry conviction, both by the force of its statements and the lucidity of its logic. I call your especial attention to the ground taken by President Eliot, that it is the antivivisectionists who are inhumane and cruel to the last degree, because they would condemn both man and animals to suffering and death by impending the progress of medical science.

Members of the American Medical Association.—By its constitution, the members of the Association consist (1) of delegates; (2) of members by invitation; (3) of permanent members, and (4) of members by application. I wish to call your attention to the desirability of limiting the members by invitation to foreign delegates, eminent foreigners whom the Sections may desire to invite to read papers and take part in the discussion, to members of the medical staff of the United States Army, Navy and Marine-Hospital Service, and to the occasional visiting physicians from our possessions outside of the limits of the United States proper. It has been the custom in most of the Sections to invite medical men of distinction who are not members of the Association to read papers before the Sections. Some of these gentlemen have been even openly hostile to the Association, and yet year after year have had the courtesies of the Association extended to them. They have availed themselves of these privileges and advantages and yet not only privately, but sometimes publicly, have expressed their hostility to the Association.

It seems to me that the time has now come when this practice should cease. Membership in the Association is open to every American, and any one who does not choose to avail himself of the privileges and advantages of membership by joining the Association should be debarred from them.

During the present year I have sent a courteous circular letter to each person so invited by the various Sections, but not a member of the Association, enclosing a form of application and inviting him to become a member of the Association. I am glad to say that a very large number have availed themselves of the opportunity of doing so. The Constitution prescribes that the members by invitation shall be invited by "the meeting after an introduction from and being vouched for by at least three of the members present or three of the absent permanent members;" and in the order of business, the third order is the "reception of members by invitation." No such formality, it seems to me, is desirable. The extending of such an invitation to distinguished foreigners and others that I have suggested may well be left in the hands of the Sections, with the exception, it might be, occasionally of persons of unusual distinction.

Section on Pathology.—One of the important features of the American Medical Association is to promote the scientific side of medicine. It has seemed to me that the Association was not fulfilling its duty to scientific medicine in one important particular. There is scarcely a more important branch of modern medicine than pathology and bacteriology, and yet no section for the consideration of these subjects is provided. Although it was not authorized by the Association, I had such confidence in your intelligent and hearty co-operation that I ventured to ask a number of gentlemen to act as a provisional or unofficial committee to organize a Section of Pathology and Bacteriology, under the chairmanship of Dr. Ludvig Hektoen, of Chicago. These gentlemen have ably performed their task and they have presented a most attractive program. You will be asked to officially authorize the formation of such a Section, and I can not doubt what your action will be.

In connection with this, I also appointed a provisional or unofficial committee on a pathologic exhibit, in charge of a committee, of which Dr. Joseph Stokes, Moorestown, N. J., is the chairman. Dr. Frank B. Wyman, Indianapolis, Ind., has acted as secretary of both committees. I but ask you to visit the adjoining exhibit to be convinced of how faithfully and intelligently this committee has performed its task. They communicated with a large number of medical schools, museums, and individuals and have met with a most hearty response from all sides. They did not deem it wise that the exhibit should be either by States or by institutions, lest there should be aroused a rivalry, which would in some sense smack of egotism and lead to future disaster; but asked all to subordinate their individual and institutional interests to the broad general interests of science.

The Annual Exhibit.—The management of the annual exhibit is a matter of considerable importance to the Association. The exhibit is an important financial aid to the local committee which has charge of the meeting of the Association.

So far as I know there are no rules governing the charges, the classes of exhibits, or rather regulations by which this committee may be guided.

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Each new committee is a law unto itself. It has seemed to me that if there could be a permanent committee on the annual exhibit, this would be of great advantage, especially if the committee were made up, in part at least, of those who had had experience with former exhibits. It would seem to be desirable that each year the chairman or some other member of the committee on the last exhibit should be added to the committee to replace one of the earlier members, who would retire. I recommend, therefore, that such a committee, to have charge of the exhibit at the annual meeting, be appointed this year, this committee shall have power to add to its numbers and nominate a chairman who shall reside in the place at which the succeeding meeting is to be held, and as many other local members of the committee as may be deemed necessary to carry on the work. The general committee could formulate general rules governing the exhibit and the local committee could carry out the details.

The Sections.—The work of the Sections has been, heretofore, in many respects admirably done. The tendency to correlate the papers which are presented under certain specific heads, and to select one or more important topics for consideration, inviting a few distinguished speakers to open the debate, which is thus thrown open to all, has been marked in the last few years. The advantages of such a source are so obvious that I trust the chairmen, secretaries and executive committees of the various Sections will hereafter strive for even more important debates and more important results than have been thus far achieved. Room should certainly be reserved for a certain number of volunteer papers, but to allow the major part of the time of the Sections to be taken up by a mass of heterogeneous papers on unrelated topics would be a great misfortune.

The policy of *The Journal*, also, in connection with the various papers read before the Sections is an important one. Papers vary greatly in their merit and importance, and it would seem to me that to the trustees and the editor of *The Journal* should be confided the entire responsibility of selecting the more important papers for publication in full, and of presenting the less important in longer or shorter abstracts. The example of the *British Medical Journal* may well guide us in this matter.

I ventured to correspond with the chairmen and secretaries of the various Sections as to the hour of the Section dinners. Very frequently this has been fixed at nine o'clock, an hour which was too late for the usual dinner and too early for a second one. Moreover, when the dinners are fixed at so late an hour, if they are to be followed by after-dinner speeches the hour at which the Sections can break up and seek a much-needed rest is so late that it interferes seriously with the work of the succeeding day. Almost without exception, the officers of the Sections preferred the usual dinner hour, about seven o'clock, both for material and intellectual reasons. It is often difficult to arrange this matter with the hotels at which the dinners are usually given, but the Association, I think, might insist, as but a single evening is occupied by these dinners, that for the one occasion the hotels who profit so largely by the meeting should accommodate the Association in this matter.

Committee on the Thirteenth International Medical Congress.—Early last autumn Prof. William Osler, who had been requested to organize the American Committee on the coming International Congress, invited the President of the American Medical Association, and the Presidents of the various associations of medical specialists to form a committee to assist in organizing the International Medical Congress which is to assemble on August 2d in Paris. This Committee, and especially its chairman and secretary, have done the work exceptionally well. Of course, there is need of money for printing, postage, and clerk hire. At a recent meeting in Washington, the various societies represented by their chairmen, were invited to contribute $25 each toward the expenses, I recommend that an appropriation of $50 be made from the funds of the American Medical Association toward the expenses of this committee.

Endowment of Medical Schools.—Turning, now, from the affairs of the Association, I wish to say a few words in reference to a subject of paramount importance which I am sure will appeal to the sympathies of all present, namely: the need for endowments for medical schools.

The tide of charity in the United States has reached a remarkable height. The *Chicago Tribune* publishes an annual list showing that in 1894 the charitable gifts and bequests in the United States amounted in round numbers to $20,000,000; in 1895, to $29,000,000; in 1896, to $34,000,000; in 1897, to $34,000,000; in 1898, to $24,000,000; and in 1899, to the enormous sum of nearly $80,000,000.

But a small portion of this charity, however, has been bestowed upon medical schools. It is mostly to colleges, theological schools, hospitals, museums, and libraries, that the principal amount has been given. The cause for this, I think, has been chiefly the vicious method in which all our medical schools were formerly conducted. They were practically joint-stock companies, organized for the benefit of the faculties. As Professor Bowditch has said, one might as well expect the public to endow a cotton-mill as to endow such a school. The day of these private enterprises is now, happily, nearly past. The respectable schools of medicine are now conducted by trustees, a body of men wholly apart from the faculties, who manage the affairs of the medical school just as they would those of a university, taking control of the income and expenditures of the school, placing the professors and other teachers upon salaries, and conducting the affairs of the institution on broad lines of educational progress. Partly as a result of the influence of the profession exerted through the Association, the courses of study at the medical schools of to-day, and, therefore, the

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necessities of the student, are so wholly different from those of twenty-five years ago that it may be well termed a new era in medical education. As a consequence of the broadening and lengthening of the medical course of study, the cost of medical education has enormously increased. The public at large does not at all appreciate this changed condition, and even you, members of the profession itself who may have graduated many years since, scarcely appreciate to its full value the difference. As a consequence, the fees of the students, which can scarcely be raised beyond the present amount, are wholly inadequate for providing a proper medical education, and the medical school appeals, as does the college and the theological and the technical school, for wise and liberal endowments in order to provide this suitable education. "There is no branch of education," says President Eliot of Harvard, "which more needs endowment. Medical education is very expensive, because it has become, in the main, individual instruction. Large lectures and crowded clinics are seen to be of really very limited application, so that year by year the medical teaching becomes more and more costly."

What were the necessities of a medical school twenty-five years ago? Two lecture-rooms, in which seven professors talked, a dissecting-room, and, if possible, a clinic, which was occasionally, but rarely, in a college hospital. Practically the instruction which the student obtained, with the exception of dissecting, was limited to "book-knowledge" and "ear-knowledge." The student was not brought into contact with any patients or any concrete facts, observations, or experiments. He only listened to what his teachers said about them. Millions were given to hospitals in which the sick were treated, but only sixpences to medical schools, in which the men who are to care for their future patients were trained. "Spain," says Lyman Abbott, "in the late war had nineteenth-century guns and sixteenth-century men behind them. We know what came." Our splendidly-equipped hospitals are the nineteenth-century guns. Insufficiently trained doctors are the sixteenth-century men. The time has certainly come when the "men behind the guns" must equal in efficiency the weapons with which they do the fighting.

To perform a tracheotomy and rescue a child suffering from diphtheria is a dramatic occurrence which appeals to every one. To conduct a long series of experiments in the laboratory, by means of which the cause of diphtheria shall be found and the necessity for a tracheotomy avoided, appeals only to the educated few; yet the service done by the operation is a service only to the one patient who may be rescued by the knife, while the other is a service to hundreds and thousands of patients who, for all time, will escape both the knife and the disease. Yet, such a series of experiments in preventive medicine brings no reward in money, a limited reward in fame, and only its largest reward in the consciousness of giving a great boon to humanity.

The era of the man who simply listened to what his teachers had to tell him and then went on his way, as a "rule of thumb" man, is, happily past. This is the era of the trained man and the trained woman, and training means opportunity provided by the community and time, labor and money given by the man.

Let us look for a moment at what a medical school now needs. It stands for two things: (1) "Thing knowledge," instead of "book-knowledge," and "ear-knowledge," teaching the facts of modern science, by scientific methods; that is to say, methods of precision. But (2) no medical school should be content simply with imparting the knowledge that exists. It should push back the boundaries of ignorance and, by research, add to existing knowledge.

In the accomplishment of the first duty of the medical school, there are required, first, didactic lectures. I am not one of those who believe that the day of the didactic lectures is past. "Never," said President Faunce, of Brown University, in his notable inaugural, "never shall we be able to do without the personality of the teacher, flaming with enthusiasm for knowledge, pressing up the heights himself and helping the student on."

In the 156 medical schools in this country there are, perhaps, over 1500 members in their faculties. In all of them are inspiring teachers flaming with enthusiasm, for a not inconsiderable proportion may properly be so described, and the influence of such enthusiastic teachers is felt by the entire class. One or two such men in every school make a good faculty. Besides the didactic lectures, a good working library and a reading or study room is a requisite. And it is a matter of no little encouragement that in the reports of the United States Commissioner of Education for 1898, 72 medical schools reported 151,433 volumes in their libraries.

The great difference between the modern method of teaching medicine and the older method consists in *laboratory instruction and clinical instruction,* both of which must be individual. Laboratories are very costly. They require buildings, equipment, and assistants. The number of laboratories required in the present day in a fully equipped medical school is astonishing. First, the dissecting-room—the anatomical laboratory—and along with this a laboratory of histology, and another which may be combined with it, a laboratory of embryology. Next, a physiological laboratory, in which each student will not become an accomplished physiologist, but will become familiar with physiological methods and be trained in exact and careful observation; a laboratory of chemistry and, combined with it, especially, a laboratory of physiological chemistry; in the department of materia medica, a laboratory of pharmacy, where the student will not only become a good pharmacist, but will learn the essentials of pharmacy so that he will not make, at least, gross mistakes, which, otherwise, would constantly occur. Still more important is a laboratory of pharmacology, in which he will learn the action of

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drugs and be prepared rightly to use them. In obstetrics, a laboratory of practical obstetrics and obstetric operations is essential. In surgery, he needs a laboratory in which he shall be taught all the ordinary surgical operations. In pathology, he needs a laboratory of morbid anatomy, a laboratory of bacteriology, of hygiene. The mere statement of this catalogue of thirteen laboratories will enforce the fact that an enormous expense not only for the installation, but also for the running expenses, will be required. To show what one university abroad does, Professor Welch has stated[1] that the Prussian government expends, outside of the salaries of professors in the University of Berlin alone, over $50,000 annually. What American medical school can show anything approaching an endowment which will provide such a sum?

And what has not the laboratory done for us within the last few years. It has discovered the cause of tuberculosis, tetanus, suppuration, cholera, diphtheria, bubonic plague, typhoid fever, erysipelas, pneumonia, glanders, and a host of other diseases; it has shown us how to avoid all danger from trichina so that our entire commerce in hog-products is conditioned upon the laboratory; it has shown us how to banish suppuration, erysipelas, tetanus, and pyemia from our hospitals and reduce our death-rates after operation from 50 or 33 per cent. to 10 per cent., 5 per cent., 1 per cent., and often even fractions of 1 per cent.; it has given us a really scientific hygiene in which we no longer guess but know; it has shown us the rôle of the mosquito in malaria, of the rat in bubonic plague, of the fly in typhoid fever; it has given us the power to say to diphtheria "thus far shalt thou go and no farther;" it will give us the power to utter a pæan of victory over typhoid, cholera, bubonic plague, tuberculosis, yellow fever, cancer, and other such implacable enemies of the human race;—and yet there are those who would stay this God-given hand of help!

And the laboratory has had not only its devotees but its heroes. Listen to the story of but one. Dr. Franz Müller, of Vienna, was one of those who in his investigations of the bubonic plague in 1897 contracted the dreaded disease from the bacilli in his culture-tubes. When he became certain that he was infected he immediately locked himself in an isolated room and posted a message on the window pane, reading thus: "I am suffering from plague. Please do not send a doctor to me as, in any event, my end will come in four or five days." A number of his associates were anxious to attend him, but he refused to admit them and died alone, within the time he predicted. He wrote a farewell letter to his parents, placed it against the window, so it could be copied from the outside, and then burned the original with his own hands, fearful lest it might be preserved and carry the mysterious germ. Can you find me on any page of history a finer example of self-sacrificing altruism? Was ever a Victoria Cross more bravely won?

But the establishment of laboratories, with their attendant expenses, is not the only improvement in our medical curriculum. Every well-conducted medical school requires a large hospital in connection with it. Here must be installed again a fourteenth laboratory of clinical medicine in which all the excretions of the body will be examined, tumors studied, cultures and blood-counts made, or else the patients in the hospital, from the modern point of view, are neglected. It is not too much to say that a patient requiring such examinations, be he the poorest of the poor, has his case more scientifically studied, more exactly measured, more precisely treated than most rich patients in sumptuous homes.

Again, the individual instruction to which President Eliot referred is now carried out in all of our best medical school hospitals by the establishment of small ward-classes, by whom or before whom the patients are examined, prescribed for and operated upon by the professor or instructor, each student bearing a part; and so, by having his investigations directed, his powers of observation cultivated, his mistakes pointed out, his merits applauded, the student graduates from the medical school equipped as none of us, alas, ever had the opportunity to be. All of these laboratory and ward classes imply an enormous increase in the number of assistants, young men striving not only to perfect themselves, but by teaching, to forge to the front so that the best men will win the struggle for preferment.

Again, the course of study has been prolonged from two years, as it was until 20 to 25 years ago, to four years, and in addition the terms have also been lengthened. When I was a student the course of study consisted of two sessions of about 19 weeks each, or 38 weeks in all. Now the course consists, as a rule, of four sessions of 32 weeks each, or a total of 128 weeks, an increase of 90 weeks, nearly 3½ times as much as 25 years ago. In 1885, 103 schools had courses of two years, and 5 school courses of three years. In 1899, 2 schools had courses of two years, 10 of three years, and 141 of four years.[1]

It can be easily seen that from this additional time required another source of expense has arisen besides the increased number of assistants. The time given to teaching by members of the faculty, as a rule, has been more than tripled, as compared with twenty-five years ago. In addition to this, professors in charge of laboratories must practically give their whole time to the work and are precluded, therefore, from any income from practice. These men must receive salaries sufficient for them to live on.

Surely this statement of the difference between the education given twenty-five years ago, which required but little expenditure of money and resulted in considerable incomes, and the modern

[1] Higher Medical Education and the Need for Its Endowment. MEDICAL NEWS, July 21, 1894.

[1] Monographs on Education in the U. S.: No. 10, Provisional Education, p. 11. James Russell Parsons, Jr., Dept. of Education for the U. S. Commissioner to the Paris Exposition of 1900.

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methods of education in the laboratory and the hospital, as well as the lecture-room, which require enormous expenses, is an ample reason for large endowments.

But, the function of the medical school, as I have said, should not be limited merely to the imparting of existing knowledge. No school is worthy of the name that does not provide for greater or less research work by which substantial additions to our knowledge may be made and the facilities and the results of the healing art made more efficient for the welfare of mankind. Twenty-five years ago there were practically few young men who were fitted for research work, especially laboratory work. Now every well-equipped school has attached to it, in one way or another, a score or more of young men who are eager for work, longing for the opportunities for usefulness and distinction if they can only obtain a bare living. When in my own school I look around me and see these young men thirsting for opportunities for usefulness and distinction, I am often heartsick at our want of facilities for this purpose, and I long with an intense longing for some wise and munificent friend of humanity who will endow post-graduate scholarships, fellowships and laboratories for just such an end. Our hospitals do a magnificent work in charity, helping the sick and the forlorn, the weak and the suffering in a way which appeals to the charitable instincts of our fellow-countrymen, and to this appeal they have responded most generously. *But I venture to say that the medical school which trained a Lister, a Pasteur, a Koch, has done more for humanity than all the hospitals of this country combined.* The modest laboratory at Würzburg consisted chiefly of a Rhumkorff coil, and a Crookes' tube—and Röntgen. Other Röntgens and Listers we have among us if we but knew it. These are the men who are the world's real illustrious heroes.

It is especially in these days that in America we need such researches, for our tropical possessions have brought us face to face with new problems which we can only justly meet by the most careful investigations. It is to our credit that several of our medical colleges have already established schools of tropical medicine, which show that the profession, as well as the public, are rising to the level of our responsibilities.

It is also a cheerful sign of the times that at Harvard a school of comparative medicine has been established, which will lead to other similar schools in connection with our medical colleges, for the broad study of disease both in man and in the lower animals. All such knowledge should be correlated, and we may well learn from the diseases of animals how to care for man, as thus far we have learned chiefly from the diseases of man how to care for animals. The endowment of this school with the modest sum of $100,000 is an omen of future good. So too, the somewhat similar school at Buffalo bids fair to add immensely to our knowledge and therefore to our ability to heal.

What now has the American public done for the medical school? Let us contrast it with the endowments in theology. Our academic institutions have such an enormous sum-total of endowments that I do not even consider these. Let us, however, compare theology and medicine, remembering that theology is almost wholly a literary study, dealing not with the facts of Nature, requiring no laboratories and no large corps of assistants and therefore conducted at a minimum of cost. In 1894[1] 84 theological schools reported endowments of $18,000,000, and 71 schools do not report this item; 19 out of 151 medical schools report endowments of $1,906,072. Five theological schools have endowments of from $850,000 to $1,369,000 each. Yet in 1899 there were only 8000 students of theology for whom this enormous endowment was provided, as against 24,000 students of medicine. Each theological student had the income of an endowment of $2250 provided for his aid, each medical student the income from $83. As against 171 endowed chairs of theology there are only 5 in medicine.

I do not grudge a dollar to the theologian, but I plead for his medical brother, that, with a vastly more expensive education he shall have a reasonable provision made for his training. I have already indicated to some extent the direction which these endowments of medical schools should take. They may be classed in three categories: (1) The endowment of professorships. By doing this the salary of the professor would be made available for the other wants of the school. The endowment may well take the form of a memorial, either of the generous donor, or, still better, of some distinguished former occupant of such chair whose name would always add luster to it. (2) The endowment of the laboratories which, as I have indicated, are so costly, both in their installation and in their yearly expenses. (3) The endowment of post-graduate scholarships and research fellowships, these being intended especially for those who will devote their time to original research. Students can not take much time for original research; their regular studies will absorb all their energies. Research must be done chiefly by young graduates under the direction of stimulating and energetic members of the faculty.

It is not, I trust, too much to hope, if not now, that in the near future the American Medical Association will set a fruitful example by giving each year "Scientific Grants in Aid of Research." The first object of the Association must be, necessarily, to place itself on a strong financial basis. It should own its own building, its printing and publishing plant, and, as soon as possible, should have a reserve fund of considerable proportions. Nothing conduces to the stability and conservativeness of any institution like a good bank balance. The British Medical Association has to-day an excess of assets over liabilities of nearly $380,000, chiefly invested in its building at 429 Strand, London. The American Medical Associa-

[1] U. S. Education Report.

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tion has made a fair start with a surplus of over $27,000 last January, and, with its large, and, let us hope, rapidly increasing membership, it will before long assume a rank second only to the British Medical Association. Last year[1] the Scientific Grants Committee allotted £741, or somewhat more than $3500, for research work, distributed to three research scholarships, the holders of which were paid $750 each a year, and thirty-three grants in aid of research work, varying in amounts from $25 to $100. Among those to whom grants were made occur the well-known names of Beevor, Vaughan, Harley, Kanthack, Luff, Manson, Noel Payton, and Risien Russell. I should hope that the American Medical Association might even now begin by a modest appropriation, say of $500 a year, which should be allotted by the trustees, or by a special committee on scientific grants, after a careful investigation of the merits and the character of the person to whom such grants were made. No grant should exceed $100, or possibly even, at first, $50 in amount. The results of such grants would be not only absolute additions to our knowledge, but the cultivation of a scientific spirit which would permeate the whole profession and elevate its objects and aims.

In pleading for these endowments of medical schools, it is but a plea for a return to the profession of a tithe of what they have given. Two years ago I carefully investigated the value of the services rendered to the poor in the city of Philadelphia by the medical staff of the Jefferson Medical College Hospital alone, and I found that 129 medical men were then attached to the hospital, and their services, calculated on a very modern basis of the ordinary fees, I valued at over $500,000. To a profession which gives so freely of that which is most difficult to give, its own life-blood, surely the public for its own protection may give reasonable endowments to its medical schools. It will be returned to the community tenfold in better educated, better trained and more successful doctors. More devoted, self-sacrificing men and women they never can have.

GASTRIC HEMORRHAGE.*

BY WILLIAM L. RODMAN, M.D.,
OF PHILADELPHIA.

PERMIT me in the first place to express my profoundest gratitude to the Association for the distinguished honor conferred in placing the surgical oration for 1900 in my hands. It is with more than diffidence that I aprroach so great a responsibility, being keenly alive to my own shortcomings, and having for the nonce a quickened memory of the brilliant addresses made on former occasions by many of my illustrious predecessors.

Gastric hemorrhage of whatever nature was, until recently, looked upon as strictly a medical affection, and was treated on the same general principles as underlie the treatment of many other internal hemorrhages. This is still true of many, indeed, most cases of gastrorrhagia, but as I shall endeavor to show, is not the case with others which are treated by a combination of medical and surgical means and others still which should be met by prompt operative procedure.

Our purpose will be best subserved by enumerating the different varieties of gastrorrhagias, showing how they are to be diagnosticated, and giving the treatment to be pursued in the more important varieties. Hemorrhage from the stomach may result from ulcer of the stomach, duodenal ulcer, gastric carcinoma, cirrhosis of the liver, vicarious menstruation, post-operative hematemesis, purpura hemorrhagica, miliary aneurisms, aneurisms of the aorta and other vessels, leucemia, typhoid, yellow and other infectious fevers, valvular disease of the heart, and various kinds of traumatism.

Gastric ulcer is the most common disease of the stomach producing hemorrhage—occurring in 5 per cent. of the entire population, according to Ewald[1] and others high in authority. Hematemesis occurs in at least 50 per cent. of all cases of gastric ulcer, and many authorities estimate it as present in 80 per cent. It is, too, fatal in 8 per cent. of the cases in which it occurs, according to the conservative estimate of Leube,[2] and we can not question that it is indirectly fatal in a much greater number of cases by anemia and its remote consequences. Many authorities who might be quoted place both the frequency and mortality of hemorrhage higher than Leube does, and very few as low. Therefore, its prompt detection and proper treatment are of the greatest importance.

The recognition of gastric hemorrhage resulting from ulcer usually is readily made on account of the previous diagnosis in the case; but if the patient is seen at or subsequent to the hemorrhage for the first time, its association with the other classic symptoms of ulcer, particularly pain and vomiting after eating, leave little room for doubt. While there will be pain, vomiting, and gastrorrhagia in carcinoma of the stomach, the differences furnished by the two diseases are so marked that doubtful or border-line cases will be rare. The pain of ulcer is often relieved at once by emesis if it empties the stomach. This is not the case with pain and vomiting of carcinoma. Bleeding in carcinoma is rarely so free as in ulcer; the amount of blood lost being more frequent, in small quantities, and of the characteristic coffee-grounds appearance. It does not resemble pure blood, as it does in ulcer, even though mixed with food. The presence of hydrochloric acid—perhaps an excess of it, or hyperchlorhydria—in the ejected matter is as characteristic of ulcer as its presence and the presence of lactic acid are of carcinoma. Ulcer is more frequent in females under forty, whereas carcinoma occurs more commonly in men past middle life.

If an examination of the patient is allowable, the presence of a palpable tumor will be more

[1] Brit. Med. Jour., 1899, ii, p. 219.

*Abstract of Oration on Surgery delivered at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

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often encountered in carcinoma than in benign ulcer, but I would emphasize the fact that a decided tumor may, and did, exist in quite a number of the forty benign ulcers thus far excised.

Treatment.—Formerly the treatment of hemorrhage from gastric ulcer was uniformly by ice, astringents, and opium, combined, of course, with rest. This should properly be the treatment still for the first hemorrhage in all cases; for the second possibly; but not for subsequent ones, for recurring hemorrhage, like appendicitis, will sooner or later prove fatal, and should, like that affection, be treated radically; and to carry the parallelism further, the best time to operate is between attacks. With two hemorrhages coming close together we may assume that, as in appendicitis, there will be a third attack, and if anything is to be attempted surgically it should be done when the patient is in fairly good condition, and not in the collapse of hemorrhage.

Before taking up operative procedures it might be well to refer to the treatment of gastrorrhagia by copious enemata of hot water, as advised and practised with such happy effect seemingly by Tripier.[4] In several cases which have resisted all the usual medicinal and dietetic treatment, Tripier secured prompt and abiding results by hot enemata repeated twice or thrice daily. The water should be injected at a temperature of 112° to 120° F. There can be no doubt, he says, that the hemorrhage came from the stomach, duodenum, and points high up in the alimentary tract. Hot water acts reflexly.

Tripier has also found that hot enemata promptly check intestinal hemorrhage in typhoid fever, as it will bleeding from the rectum, sigmoid, and large bowel.

Plunging the hands in hot water will at times quickly arrest bleeding at the nose, as will ice applied to the head. This, surely, must be reflex. Another and good reason for using hot water per rectum in the manner advised by Tripier is, that if nothing more is done shock is combated in the best possible way, as it is easy to add salt to the water in proper proportion to make normal salt solution. Hot water should also be taken in small quantities by the stomach. It is my belief that it will be less likely to excite vomiting and more certain in its hemostatic effects than ice. If the bleeding is capillary or the open arterioles of very small size, prompt hemostasis may result; whereas, if an artery or vein of any size has been opened we may expect much less from any treatment which depends for its success on the formation of a firm clot in the mouth of the bleeding vessel, than we usually can in external hemorrhage.

In hemorrhage the result of disease, however, we have very generally a lateral opening made into the caliber of the blood-vessel, and the ability of the latter to contract and retract within its sheath is no greater, but actually less, than that of a vessel incompletely cut across. Occasionally, it is true, ulcerative action will as completely divide a blood-vessel as if it were done by a knife, but such cases are exceptional, as will be shown by a careful study of fifty-five fatal cases of gastric and duodenal hemorrhage collected and reported by M. Savariaud[5] in his very complete thesis.

Of fifty-five autopsies collected from various sources, and reported by Savariaud—none was operated upon—there were: Ulcerations of the splenic artery, 17 cases; ulcerations of the coronary artery, 6; ulcerations of the pancreaticoduodenal, 7; ulcerations of the gastric arterioles, 10; branches of the coronary vein, 2; other veins, 2; vessel not determined, 2; no vascular orifice visible, 4; vessel not mentioned, 4.

Hematemesis frequently occurs as the result of duodenal ulcerations, and as it is at times impossible to differentiate between gastric and duodenal hemorrhage, we have included the seven cases of duodenal ulcer. Furthermore, gastric and duodenal ulcerations frequently coexist and the treatment of both is essentially the same. The splenic artery and vein have been opened by the same ulcer, as occurred in the case of Gaillard.[6]

Contrary to what might with reason be expected, there is no constant relation between the size of the vessel and the amount of blood, or the rapidity with which it is lost. It is impossible, therefore, to diagnosticate with any degree of certainty the source of the hemorrhage, and an opinion at best is only a guess based on probabilities anatomic and pathologic. He who said, "the end of all philosophy is a learned doubt," must have been a medical man thinking of gastric hemorrhage.

The subjoined table is also from Savariaud.

Vessel	Cases	Sudden Death	Rapid Death	Survived
Heart	4	1	1	2 (3 days)
Aorta	2	1	1	1 (10 days)
Hepatic	2	1	1	1 (10 days)
Splenic	17	3	7	7 (2 to 8 days)
Coronary	6	1	3	2
Pancreaticoduodenal	6	1	3	2 (8 to 15 days)
Arterioles	10	1	1	8 (4 to 15 days)
Small Veins	4	1	1	2 (7 to 11 days)
Invisible Veins	3	2	1	1 (21 days)

It will also be seen from this table, based on autopsies where careful examinations were made, that death may be sudden in capillary hemorrhage, or delayed ten days when there is an opening into the aorta as large as a haricot bean—Grunfeld's case.

This uncertainty of diagnosis is a strong argument in favor of surgical intervention before it is too late to be of use. I would emphasize the fact as shown by the above table, which is based on accurate post-mortem examinations, that large and rapidly fatal hemorrhages may occur from capillaries.

Having exhausted all of the ordinary medical means for arresting hemorrhage should such cases be treated as external hemorrhage, viz., the bleeding vessels cut down upon and ligated? There is a sufficient number of cases on record to justify the statement that better results will be secured by judicious interference than by a policy of inaction hitherto invariably followed. By this I would not be understood as advocating the opposite plan of interference in every case—far

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from it. Up to a certain point there is a substantial agreement between physicians and surgeons, and I may say here that the idea of arresting hemorrhage from gastric ulcer by surgical means occurred to a physician and a surgeon at the same time. In all cases of small but frequent hemorrhages, which slowly but almost surely destroy the patient, recourse should be had to timely operation. If there is at the same time gastrectasis, the indication for operation is absolute, as dilatation stretches the ulcer, prevents healing and favors bleeding.

The results, too, of operations for chronic hemorrhage have been more than encouraging, and should, without question, lead to earlier and more frequent surgical intervention. There have been thirty-one operations for frequently recurring, or what might be called chronic, hemorrhage, with six deaths, or a mortality of 19.3 per cent. This is, under the circumstances, an excellent showing when it is remembered that it represents but little more than the average mortality given in a large number of operations on the stomach for non-hemorrhagic ulcers. Mr. Robson[7] reports 188 operations for gastric ulcer—non-hemorrhagic and non-perforating—with a mortality of 16.4 per cent., which is about the same conclusion reached by Heydenriech,[8] Tricome[9] and others who have written on the subject. He (Robson) later on gives the mortality of operations for chronic hemorrhage as 10.5 per cent. Manifestly gastro-enterostomy, pyloroplasty, or other operations on the stomach should not give a better prognosis on account of the presence of hemorrhage as a symptom. The good showing now made for recurring hemorrhage will be still better when physicians generally recognize that if delayed operations are justifiable, early ones are better, and should, therefore, be encouraged at a time when the chances of success are correspondingly brighter.

Operations for acute hemorrhage in general do not so imperatively call for surgical intervention, but when this is said, it is saying nothing more than is true of external hemorrhage. In the present state of our knowledge, we can not say that operation should ever be done during the first hemorrhage or the ensuing shock. Likewise, if seen after the hemorrhage, when the patient is successfully rallying from shock, a policy of non-intervention is not only permissible, but best.

I am thoroughly convinced, from a careful study of all reported operated cases up to date, that none were operated on too early, but many too late. It is certainly the duty of the physician to summon surgical aid as soon as the second hemorrhage begins, if he has not already done so, that everything may be in readiness to seize upon a propitious time for interference before a third attack.

It is easy to believe that several cases in my tables were lost by delaying operation until after the third and fourth hemorrhage. *Per contra*, there have been quite a number of successful results after the second and third hemorrhage, operation having been done in a condition of extreme anemia in all of them, as in the cases of Roux, Robson, Caxin, Andrews, and two of Armstrong's cases. There have been thirty-two operations for acute hemorrhage with thirteen deaths or 40.6 per cent. mortality, a much better showing than was made by Mayo Robson, who reported a smaller number of cases, and included also among them cases of vicarious menstruation and post-operative hematemesis, neither of which has any direct etiologic or other connection with gastric ulcer.

Of the dozen methods practised, the three best are pylorectomy or partial gastrectomy, according to the site of the ulcer, gastro-enterostomy, and ligature *en masse* of the gastric mucosa. The first is ideal surgery, preventing possible perforation and malignant degeneration; the second is practical and oftentimes the best surgery, stopping hemorrhage and favoring cicatrization of the ulcer by putting the stomach at rest; while the third is frequently the most desirable way to end an exploratory gastrotomy when the site of the bleeding vessel was unknown until the stomach was opened. Each method has given good results, but for many reasons the second has been preferred in a majority of instances, and of the many ways of performing gastro-enterostomy the posterior or Von Hacker's method with the Murphy button has been, and should be, generally chosen. Resection, if practicable, is best, but gastro-enterostomy would not only arrest the bleeding, but usually delay the inevitable end, and bring about a decided amelioration of all the distressing symptoms. Indicated as it often is in advanced carcinoma without hemorrhage, the presence of the latter as a symptom should be an additional reason for surgical intervention.

Cirrhosis.—Hemorrhage into the stomach is a frequent symptom in cirrhosis of the liver, and death resulting therefrom can not be considered as rare. Preble,[10] of Chicago, has recently reported 60 cases of fatal hemorrhage, 3 in his own practice, and 1 in that of a colleague and 56 collected from literature. The diagnosis in all was verified by autopsy. After a careful analysis of these, a full history of each being given, he draws some interesting and striking conclusions: "(1) Fatal gastro-intestinal hemorrhage is an infrequent but not rare complication of cirrhosis of the liver. (2) In a great majority of the cases the cirrhosis is atrophic, but it may be hypertrophic. (3) In one-third of the cases the first hemorrhage is fatal; in the other two-thirds the hemorrhages continue at intervals of over a period varying from a few months to several years, the maximum given being eleven years. (4) In one-third of the cases the diagnosis can be made at or before the time of the first hemorrhage. In the other cases the diagnosis can not be made at all or only after a few months or years, during which time other symptoms of cirrhosis have developed. (5) Esophageal varices are present in 80 per cent. of the cases and in more than one-half of the 80 per cent. the varices

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show microscopical ruptures, and it is probable that many other ruptures would be found if the varices were tested by injection of air or fluid. (6) Fatal hemorrhages occur in cases which show no esophageal varices, and they are probably due to the simultaneous rupture of many capillaries of the gastro-intestinal mucous membrane. (7) The hemorrhages in this class of cases are usually preceded by other symptoms of cirrhosis, but the first symptom may be a fatal hemorrhage. (8) In 6 per cent. of the cases which show esophageal varices was the cirrhosis typical, *i. e.*, showed ascites, enlarged spleen, and subcutaneous varices."

Treatment.—It has been suggested that as esophageal varices are the cause of a large per cent. of the gastrorrhagias complicating cirrhosis, pressure should be made on the ruptured varix or varices by introducing a rubber bag into the esophagus and distending it with water or air. This suggestion, so far as I know, has not been carried out. The objections that one can urge against it are manifold: (1) It is questionable whether pressure can be sufficiently protracted in this way to be of benefit. (2) In only 6 per cent. of the cases showing esophageal varices was the cirrhosis typical, and therefore easily diagnosed. It is certainly unsafe to formulate a treatment which at best has only a chance to reach a comparatively small number of cases. (3) The esophageal veins are part of the systemic, while those returning blood from the gastric mucous membrane are of the portal circulation.

There can be no reasonable doubt, however, that operations for gastric hemorrhage in cirrhosis have a less promising future than the same procedures in bleeding ulcer; for in the former there is in addition that general hemorrhagic tendency that makes bleeding from any situation most difficult to arrest. No operation has as yet, so far as I know, been deliberately performed where the diagnosis of cirrhosis had been made. Several of the cases reported and operated on as hemorrhagic ulcers may have been—probably were—instances of cirrhosis.

Vicarious Menstruation.—There has been a more or less general sentiment, if not positive conviction, on the part of a majority of the profession, that vicarious menstruation may manifest itself in the way of hematemesis. Such was, too, until recently the general teaching, and there are not wanting those who still believe in the possibility of such an occurrence. If it does happen one would naturally think that it would be in young women whose ovaries and tubes have been removed, or in women submitted to hysterectomy, the appendages being left, and who can not therefore, menstruate in the natural way. I have written to fifty prominent gynecologists and surgeons to learn if they had seen, and if so how frequently, instances of vicarious menstruation showing itself by hematemesis following removal of the appendages, uterus, or both. Nearly all have answered, and it is a significant fact that only two have reported—each a single case—affirmatively. Yet these operations are very common, one of them having been for many years probably the most frequently practised surgical procedure. Many of the writers have expressed a positive conviction that vicarious menstruation does not occur. It would seem, therefore, that what has hitherto been a vague impression with most of us is not corroborated by a careful examination of a large number of cases, where it should if it ever occurs.

Post-Operative Hematemesis.—I can not find, in any of the text-books on surgery at my command, reference to post-operative hematemesis. It must therefore be rare.

Mayo Robson,[12] in his Hunterian lectures, states that he has encountered it in seven cases of his own, two being fatal, and refers to a similar experience of Eiselberg, who reported to the surgical society in Berlin the details of six cases. It is significant that nearly all of those reported by Robson and Eiselberg were instances of operations on the intestines, omentum, and structures adjacent to the stomach. The anesthetic could not have been responsible for the vomiting of blood, for in one of Mr. Robson's cases cocain was used, and a cholecystotomy for carcinoma of the bile-ducts completed in fifteen minutes. In several others there was no vomiting after the operation. Robson states that in six of the cases the omentum was ligated, and in another it was probably contused. He also says that "in an experiment on an animal multiple hemorrhages into the stomach followed twisting of the omentum."

I have, with the assistance of Drs. Burns and Woody, experimented on four dogs, endeavoring to cause hemorrhage into the stomach, if possible, by rapid and severe traumatism not applied to the stomach itself but without success.

Of the fifty surgeons written to, only nine have seen post-operative hematemesis. Three operators, Johnston of Richmond, Parish of Philadelphia, and Wathen of Louisville have had one case of gastrorrhagia following hysterectomy. All occurred within a week after operation, one being fatal. Clarke and Noble of Philadelphia have each seen fatal hemorrhage from duodenal ulcers after operation. The former does not give the exact nature of the operation, but it was intrapelvic. Noble states that his patient was a woman about 60, operated on for ventral hernia. Hemorrhage that was quickly fatal occurred on the tenth day after operation. Autopsy showed a marked duodenal ulceration. Noble and Wathen have each had a fatal case of hemorrhage after nephrorraphy. Noble operated on both kidneys in a young woman. Death occurred on the twelfth day, as a result of hemorrhage from the stomach and bowels. No autopsy was allowed. Wathen's patient was a highly neurotic young woman. She began vomiting blood more than a week after operation, and died two or three days later. There was no autopsy. Johnston has also reported cases of hematemesis following operations for ovarian tumor with a twisted pedicle, suppurating ovarian cyst, strang-

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ulated hernia, and extra-uterine pregnancy. The first three were fatal and accompanied with general peritonitis; the last recovered. Three others have seen post-operative hematemesis, but it followed operations on the stomach itself; these were apparently cases of secondary hemorrhage, and are, therefore, excluded. I have been particular to make inquiries as to the frequency of hematemesis after hernia operations, as Robson and Eiselberg have both seen it. Of fifty surgeons written to only two have encountered it, and one of the cases was a strangulated hernia with general peritonitis. The other was the case operated on for ventral hernia, and who died from a demonstrated duodenal ulcer.

In more than a hundred herniotomies—strangulated and non-strangulated cases—I have never encountered it. The sum total of all the hernia operations done by the fifty surgeons to whom I have written must be many thousands, and yet but two cases of post-operative hematemesis are reported, and each has been satisfactorily explained, one patient dying of peritonitis following strangulated hernia, the other from a duodenal ulcer demonstrated by autopsy. All of the cases seen by Robson and Eiselberg followed intra-abdominal operations, such also being the case with all post-operative hematemesis reported by American surgeons, excepting two cases where nephrorraphy had been done. In doing nephrorraphy the peritoneum may, in the first place, be incautiously opened by the the most careful operator, and secondly, there is always a considerable amount of traumatism necessary to force the kidney into the lumbar incision. It is not, therefore, difficult to understand how a hematoma may easily be produced by the great abdominal pressure oftentimes necessary to bring the kidneys into view, and how, furthermore, this extravasation may occasionally cause sapremia, septicemia, or peritonitis according to circumstances. All septic conditions favor disintegration of the blood-corpuscles and predispose to hemorrhage from mucous surfaces. The gastric mucosa is particularly liable to congestion in conditions of sepsis, both on account of the marked tendency of the thin and more or less disintegrated blood to settle in the internal organs, and the vomiting and retching so frequently present.

We have in this a satisfactory explanation of the rare hematemesis following abdominal operations, and have shown that even violent traumatism to the omentum, intestines, spleen, pancreas and liver did not produce immediate hemorrhage into the stomach in any of the dogs experimented on, and it does not seem unreasonable to suppose that delayed hematemesis will usually depend on disintegration of the blood due to sepsis.

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CONCLUSIONS REACHED AFTER A STUDY OF TYPHOID FEVER AMONG THE AMERICAN SOLDIERS IN 1898.[1]

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IT is well known that typhoid fever prevailed extensively among American soldiers assembled at state and national encampments during the brief war between the United States and Spain in 1898. In August of that year a board consisting of Major Walter Reed, U. S. A., Major E. O. Shakespeare, U. S. V., and the writer, was appointed at the request of the Surgeon-General of the United States Army, for the purpose of ascertaining the causes of the existence and spread of typhoid fever in the national encampments, and of suggesting means of its abatement. In accordance with instructions, this board visited the national encampments and inspected most of the regiments. While doing this, we interviewed medical and line officers, and obtained as far as possible the sanitary and medical history of each regiment. After completing this tour of inspection, we spent about eighteen months in going over the medical records of these commands. In this work we have accumulated a vast amount of information, which we have embodied in our final report to the Surgeon-General. Since much of this information may be useful to the profession, and as the report is not likely to be published soon, I have concluded that I can not do better than present some of the more important results reached in this investigation, as follows:

1. *Every regiment in the United States service in 1898 developed typhoid fever.*—This is true of both volunteer and regular commands. I am aware of the fact that some regiments have claimed freedom from typhoid fever, and it is true that the sick reports of more than one command fail to show any evidence of this disease; but by carefully tracing the sick to hospitals, we have been able to find one or more cases of typhoid fever in every regiment. The claim is made by an assistant-surgeon of one of the Pennsylvania regiments that there was not a case of typhoid fever in his command, but the records of the Philadelphia hospitals show that certain cases sent from this regiment proved to be typhoid fever. It is true that this regiment, which was engaged in guarding powder-works in New Jersey and Delaware, had relatively few cases of typhoid fever, but it did not altogether escape this disease.

2. *More than 90 per cent. of the volunteer regiments developed typhoid fever within eight weeks after assembling in the state encampments.*—It is impossible to fix any exact date on which

[1] Abstract of Oration on State Medicine delivered before the Fifty-first annual meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

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the several regiments assembled at their state encampments. However, as the first call for troops was issued April 20, 1898, it must follow that at the earliest all regiments assembled at state encampments during the last week of that month. Bearing this in mind, our report will show that the great majority of the volunteer regiments developed one or more cases of typhoid fever within eight weeks after assembling at the state encampment.

3. *Most, probably all, of the regular regiments developed typhoid fever within less than eight weeks after going into camp.*—When war with Spain was proclaimed, the total strength of the standing army of the United States was 27,000 officers and men. These troops were scattered at about 100 military garrisons. All of the soldiers were well housed, and their quarters were, from a sanitary standpoint, in good condition. At each garrison, the water-supply was above suspicion, and the disposal of waste was such as not to endanger the health or the life of the soldiers. There was no epidemic at any post, and the army was reasonably free from infectious diseases except those of venereal origin. The number of cases of typhoid fever among the 27,000 officers and men during the first four months of 1898 was distributed as follows: In January, 9 cases with 1 death; in February, 3 with 1 death; in March, 4 with no deaths; in April, 6 with 1 death. During the last week of April and the first week of May, 1898, the regular regiments were assembled in national encampments and placed under canvas.

4. *Typhoid fever not only appeared in every regiment in the service, but it became epidemic, both in the small encampments of not more than one regiment, and in the larger ones consisting of one or more corps.*—The statement has been made that the epidemics of typhoid fever in our national encampments in 1898 were due to crowding together large numbers of men. The Third North Carolina Volunteer Infantry, at its isolated post at Fort Macon, N. C., developed typhoid fever before it was sent to Knoxville, where it became a part of the Second Division of the First Army Corps.

When we reached Knoxville, Tenn., in our round of inspecting the troops, we were informed that the Fourth Tennessee was encamped near that place, where it had been since mobilization, and that it was wholly free from typhoid fever. A personal investigation showed the following facts: This regiment assembled June 28th, although it was not mustered into United States service until about the middle of July. On August 12th Ernest Martin, who had not been well for a week preceding this time, was admitted to the regimental hospital. On August 15th he was furloughed, and on September 11th he died at his home in Nashville, Tenn., of typhoid fever. From the date of this first case up to the time of our inspection (Sept. 14, 1898) there had been in this regiment not less than 11 well-marked cases of typhoid fever, although none had been so diagnosed by the regimental surgeon.

5. *Typhoid fever became epidemic in camps located in the Northern as well as in those located in the Southern States.*—Some medical officers have placed stress on the fact that Northern men were transferred to the Southern States in the summer time, and have attached considerable importance to the influence of non-acclimatization in the production of the epidemics of typhoid fever. In answer to this, we need only call attention to the fact that the Fifteenth Minnesota, Thirty-fifth Michigan and the Two Hundred and Third New York furnished large numbers of cases of typhoid fever, practically all of which developed before they crossed the Mason and Dixon line. There is nothing more certain than that the prevalence of typhoid fever among the troops in 1898 was not due to the geographic location.

6. *Typhoid fever is so widely distributed in this country that one or more cases are likely to appear in any regiment within eight weeks after assembling.*—We have no reliable data concerning the extent to which typhoid fever prevails in this country, but from the number of deaths due to this disease, we can fairly estimate the number of cases. Such estimations show that with this disease as prevalent as it is throughout the country, it is more than probable that in any organization of 1,300 men of military age, taken from private life and held together for two months, one or more cases will develop.

7. *Typhoid fever usually appears in military expeditions within eight weeks after assembly.*—The histories of the Galeaka-Gaika war of South Africa, the Zulu war, the Afghan, Egyptian and Nile campaigns all confirm this statement. Similar experiences are recorded in the history of mining camps in various parts of the world.

8. *The miasmatic theory of the origin of typhoid fever is not supported by our investigations.*—There are still some who believe that typhoid fever is due to a poison or miasma given off from the earth in gaseous form. I would not mention this obsolete theory were it not for the fact that while inspecting the camps we found intelligent medical officers who believed that some intangible local condition inherent in the place was an important factor in the production of the epidemic. There is apparently in man a tendency to believe in the evil genius of locality. He is prone to attribute many of his misfortunes to indefinable conditions surrounding the place in which he has suffered. As I have stated, no fact in our investigations has been brought out more prominently than the demonstration that locality was not responsible for the epidemics.

9. *The pathogenic theory of the origin of typhoid fever is not supported by our investigations.*—Murchison proposed this theory of the origin of typhoid fever. This author makes the following statement: "Typhoid fever may be generated independently of a previous case by fermentation of fecal and perhaps other forms of organic matter." Translated into terms of modern medicine, this theory is founded on the

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belief that the colon germ may undergo a ripening process by means of which its virulence is so increased and altered that it may be converted into the typhoid bacillus, or at least may become the active agent in the causation of typhoid fever. Many French, English and American army medical officers believe that typhoid fever may originate in this way. Rodet and Roux, of the French army, have stated their belief that outside of the body the colon bacillus acquires "typhigenic" properties. Surgeon-Captain Davies has expressed his belief in this theory, and some of the medical officers in the American army have also given it their adherence.

I believe that the results of our investigations controvert this theory conclusively. In the first place, we have been able to show that the specific poison of typhoid fever was introduced into every one of our national encampments, and with the disease as widespread as it is in this country, I believe that we have good reasons for the claim that one or more men already specifically infected with typhoid fever enlisted in nearly every command. There is, therefore, no necessity of resorting to the theory that the colon bacillus may be converted into the typhoid germ. Moreover, all the known facts of experimental bacteriology are at variance with this theory. So far as the supposition that simple diarrhea may develop into typhoid fever is concerned, I may state that in my opinion our investigations conclusively prove that this is not true.

10. *Our investigations confirmed the doctrine of the specific origin of typhoid fever.*—As has already been stated, we have been able to trace the introduction of typhoid fever into every one of our national encampments and into the majority of the regiments. In the case of a few commands about which there is some uncertainty as to the men bringing the typhoid infection from their homes, I may state that in all of these there was ample opportunity for the introduction of the specific poison from other commands.

11. *With typhoid fever as widely disseminated as it is in this country, the chances are that if a regiment of 1,300 men should be assembled in any section and kept in a camp, the sanitary conditions of which were perfect, one or more cases of typhoid fever would develop.*—I have already stated my reasons for belief in the above given proposition. In such a camp, however, the disease would not become epidemic, and ultimately it should disappear altogether.

12. *Typhoid fever is disseminated by the transference of the excretions of an infected individual to the alimentary canals of others.*—It is more than probable that many individuals may for a while carry and eliminate the specific bacillus of typhoid fever without themselves developing the disease. It is now a well-known fact that persons who have recovered from typhoid fever may for a long time continue to carry and excrete the specific poison. It has also been shown that the longevity of the typhoid bacillus is much greater than is generally supposed.

13. *Typhoid fever is more likely to become epidemic in camps than in civil life because of the greater difficulty of disposing of the excretions from the human body.*—In fact, the whole question of the prevention of typhoid fever in armies is largely one of the disposition of the excretions.

14. *A man infected with typhoid fever may scatter the infection in every latrine of a regiment before the disease is recognized in himself.*—It must be evident from this that the only way in which typhoid epidemics can be with certainty prevented in armies is by the complete disinfection of the stools of all, both the sick and the well.

15. *Camp pollution was the greatest sanitary sin committed by the troops in 1898.*—In our history of the different regiments given in our report, we have had too frequent opportunity to call attention to the fearful pollution that existed in many camps. We have stated that fecal matter was deposited on the surface about the camps at Chickamauga and at other national encampments. Much of this filth must have been specifically infected with typhoid fever. Sinks were frequently overflowed by heavy rains, and their contents were distributed on the adjoining surface.

16. *Some commands were unwisely located.*—While there is no evidence that many of the places selected for national encampments could be called unhealthful, it is true that some of them were not suited for camp sites. Some regiments at Chickamauga, as we have shown in our report, were so located that they received the drainage of other regimental camps. There was certainly no sufficient excuse for this.

17. *In some instances the space allotted the regiments was inadequate.*—I am forced to conclude that there were line officers in the First and Third Army Corps whose efficiency might have been enhanced by some knowledge of camp hygiene.

18. *Many commands were allowed to remain in one site too long.*—There were regiments at Chickamauga that did not move a tent from the time of arrival in May until that of departure late in August.

19. *Requests for change in location made by medical officers were not always granted.*—As an illustration, I will refer to the official records of the Fifth Pennsylvania. This command reached Chickamauga Park on May 20th, and was unfortunately located on low ground. Requests for change in location were repeatedly sent in during June and July. The earth became muddy, the camp received the washings from other camps above, the sinks rapidly filled with water and overflowed, and yet requests for change in location were unheeded until August 12th, when the regiment was allowed to occupy a new camp two miles to the west and on a higher piece of ground.

20. *Superior line officers can not be held altogether blameless for the unsanitary condition of the camps.*—As we have already seen, some of the regiments were improperly located from a sanitary standpoint. This was done by superior

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line officers, and sometimes in the face of protests from the medical officers. The medical officer can only recommend; the line officer may command. We think it unfortunate that no adequate instruction is given in hygiene in our national military school. It does seem that line officers should at least know enough of this subject to be able to recognize the importance of reasonable requests and recommendations made by medical officers.

21. *Greater authority should be given medical officers in matters relating to the hygiene of camps.*—It is of the greatest importance that more authority be granted medical officers in all matters pertaining to the hygiene of camps. Certain men in the medical corps should be selected to do the duties of sanitary inspector, and these should be chosen on account of recognized ability in this particular line. The sanitary inspector should make his reports in duplicate, one copy of which should be presented to the commander in charge of the troops, while the other should be forwarded to the Surgeon-General. When the line officer in command fails to comply with requests made by a medical inspector, he should state in writing the reasons for non-compliance, or at least he should in writing acknowledge the receipt of the recommendation.

22. *It may be stated in a general way that the number of cases of typhoid fever in the different camps varied with the method of disposing of excretions.*—This is well illustrated by the methods of disposing of fecal matter and in the number of cases of typhoid fever in the three divisions of the Seventh Army Corps. The First Division was most uncomfortably located at Miami, Fla., from the last week in June until the second week in August. On the last-mentioned date it was removed to Jacksonville, where it joined the other divisions. During a part of its stay at Miami, and during the entire period of its encampment at Jacksonville, water-carriage was employed for this disposal of fecal matter. In the Second Division the tub system was employed. By this method infected fecal matter was scattered all through the camp. In the Third Division regulation pits were used. The number of cases of typhoid fever was smallest in the First Division, and greatest in the Second Division.

23. *The tub system of disposal of fecal matter as practised in the Second Division of the Seventh Army Corps is to be condemned.*—Of all the methods for the disposal of fecal matter practised in the national encampments in 1898, I regard this as the most unsatisfactory.

24. *The regulation pit system is not a satisfactory system of disposing of fecal matter in permanent camps.*—Especially is this true in hot weather. It is a very difficult thing to have soldiers appreciate the necessity of keeping fecal matter covered. As I have elsewhere stated, in many camps orders were issued requiring each man to cover his stool as soon as deposited, but we did not inspect the pits of a regiment in which we did not find exposed fecal matter. Moreover, in the camps in 1898 flies swarmed so numerously that the first droppings of fecal matter were often covered with them before the act of defecation was completed. The pit system may be employed when armies are on the march, and stopping at one place for a few days at most, but even then they were sources of danger, and it is quite impossible to prevent the spread of typhoid fever in camps in which this method of disposing of fecal matter is employed.

25. *Our board has recommended that in permanent camps where water-carriage can not be secured, all fecal matter should be disinfectant and then carted away from camp.*—For this purpose we have made a special recommendation that galvanized troughs containing milk of lime be used for the reception of all fecal matter, and that the contents of these be removed daily by means of the portable odorless excavator. I am aware of the fact that this method of disposing of fecal matter will be attended by increased cost, but I am confident that it will greatly lessen the number of cases of typhoid fever.

26. *Infected water was not an important factor in the spread of typhoid fever in the national encampments in 1898.*—There probably were local water-supplies that became specifically infected with the typhoid-fever bacillus, but infected water was not the great factor in the causation of this disease.

27. *Flies undoubtedly served as carriers of the infection.*—My reason for believing that flies were active in the dissemination of typhoid fever may be stated as follows: (*a.*) They swarmed over infected fecal matter in the pits and then visited and fed on the food prepared for the soldiers at the mess tents. In some instances where lime had recently been sprinkled over the contents of the pits, flies with their feet whitened with lime were seen walking over the food. (*b.*) Officers whose mess tents were protected by means of screens suffered proportionately less from typhoid fever than did those whose tents were not so protected. (*c.*) Typhoid fever gradually disappeared in the fall of 1898 with the approach of cold weather, and the consequent disabling of the fly. It is possible for the fly to carry the typhoid bacillus in two ways. In the first place, fecal matter containing the typhoid germs may adhere to the fly and be mechanically transported. In the second place, it is possible that the typhoid bacillus may be carried in the digestive organs of the fly and may be deposited with its excrement.

28. *It is more than likely that men transported infected material on their persons or in their clothing, and thus disseminated the disease.*—In some of the commands it was customary to detail men from the line every morning to serve as orderlies at the hospital. These men went to the hospitals, handled bedpans used by persons sick with typhoid fever, and at night returned to their comrades. The most of them were wholly ignorant of the nature of infection and the methods of disinfection. In fact, at one of the division hospitals we saw orderlies of this kind go from

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the hospital and partake of their midday lunch without even washing their hands. These men handled not only the food which they ate, but passed articles to their neighbors. It seems to me that a more certain method for the dissemination of infectious disease could hardly be invented.

29. *Personal contact was undoubtedly one of the means by which the infection was spread.*—The truth of this statement will be more evident after an inspection of the chart showing the distribution of the different regiments. On making such an inspection one must be impressed with the fact so plainly evident that men who were closely associated developed typhoid fever simultaneously.

30. *It is probable that the infection was disseminated to some extent through air in the form of dust.*—The shell roads through the encampment at Jacksonville were ground into the finest dust by the heavy army wagons. The scavenger carts carrying the tubs filled with fecal matter passed along these roads, and their course could often be traced by bits of feces falling from the tubs. Other vehicles ground up the fecal matter and dust together, and the winds disseminated these particles here and there. Men inhaled this dust; it was deposited on their food, and men ate the dust. Having seen these things, I am inclined to the opinion that infected dust was one of the factors in the dissemination of typhoid fever. I am aware of the fact that complete desiccation soon destroys the typhoid germ, but dust is not always completely desiccated.

31. *A command badly infected with typhoid fever does not lose the infection by simply changing location.*—I do not mean to say that it is not advantageous for a regiment badly infected with typhoid fever to change its location. On the other hand, in our history of the Second Division of the First Army Corps, we have shown that such change is of advantage and may be followed by a reduction in the number of cases; but mere change in location is not sufficient to stamp out the disease in a command after it has become widely disseminated. The histories of many regiments show this to be true.

32. *When a command badly infected with typhoid fever changes its location, it carries the specific agents of the disease in the bodies of the men, in their clothing, bedding, and tentage.*—This was shown by the fact that when commands changed location, leaving behind all their sick, and when they went to places free from infection, the disease continued with them.

33. *After a command becomes badly infected with typhoid, change of location, together with thorough disinfection of all clothing, bedding and tentage is necessary.*—Even when disinfection is carried out, the command will not altogether lose its typhoid infection, because some of the men will carry the germs of the disease in their bodies.

34. *Even an ocean voyage does not relieve an infected command of its infection.*—This is shown to be the case in the study of various commands that went to Cuba and Porto Rico.

35. *Except in cases of most urgent military necessity one command should not be located on a site recently vacated by another.*—This principle holds good even when the vacating regiment is not known to have suffered from any infectious disease. This axiom in military hygiene was frequently violated during the summer of 1898. In many cases of the state encampments the regiments that responded to the second call were located on sites recently vacated by commands that had preceded to the national encampments.

36. *The fact that a command expects to change its location does not justify neglect of proper policing of the ground occupied.*—The filthy condition of some of the regimental camps at Chickamauga was explained on the ground that each regiment expected to be called to the front in a few days, and therefore neglected camp sanitation. A camp site should be thoroughly policed up to the moment of vacating it. This should be insisted on as a matter of military discipline, and camp commanders should regard proper attention to the sanitation of the sites occupied by their troops as one of their highest duties, and its neglect as a crime.

37. *It is desirable that the soldiers' beds should be raised from the ground.*—In some of the regiments at Camp Alger the tents were never floored. On inspecting these commands in August we found dust several inches deep in the tents. During the day-time, in fair weather, the blankets were taken out, and men, possibly with their feet soiled with infected material, walked around in this dust, and at night threw their blankets down on it and there slept. This was both insanitary and uncleanly.

38. *In some of the encampments the tents were too much crowded.*—This was true both of the space allotted the tents and of the number of men occupying each tent. In some instances the tents of the same company were so close together as to leave no space between them, and those of two adjacent companies were crowded together back to back.

39. *Medical officers should insist that soldiers remove their outer clothing at night when the exigencies of the situation permit.*—With from twelve to sixteen men in a tent, all sleeping in the clothes worn during the day and possibly with some of them soiled with infected fecal material, the effect on the general health certainly could not have been beneficial, and the possibility of the dissemination of the infection must be admitted.

40. *Malaria was not a prevalent disease among the troops that remained in the United States.*—We have shown in our report that blood examinations for the plasmodium of malaria made by competent men at Chickamauga, Knoxville, Camp Mead, and Jacksonville, show that malaria was a rare disease among the troops that remained in the United States.

41. *The continued fever that prevailed among the soldiers in this country in 1898 was typhoid fever.*—There is no evidence that any other con-

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tinued fever was found among the troops that remained in the United States. One surgeon claims that dengue prevailed in his regiment at Chickamauga. I think it quite impossible for dengue to have prevailed in one regiment, while all other troops of two army corps encamped at the same place escaped this disease. It was claimed by some that the continued fever prevalent at Chickamauga differed from typhoid, and that it was a disease peculiar to the place; it was designated "Chickamauga fever." That the continued fever prevalent in our camps in 1898 was typhoid fever is demonstrated by the following facts: (*a.*) When the temperature-curve was not vitiated by the use of antipyretics, it was that of typical typhoid fever. (*b.*) The fever was not broken or arrested by the administration of quinin. (*c.*) The death-rate was that of typhoid fever. (*d.*) Whenever a post-mortem examination was made, and the total of these examinations was considerable, the characteristic lesions of typhoid fever were found.

42. *While our investigations show that coincident infection with malaria and typhoid fever may occur, the resulting complex of symptoms does not seem to be sufficiently well defined and uniform to be recognized as a separate disease.*

In our report we have devoted a special chapter to this subject, and I will be compelled to refer those desiring detailed information to this.

43. *About one-fifth of the soldiers in the national encampments in the U. S. in 1898 developed typhoid fever.*—Among 44,803 officers and men in regiments of the First and Third Army Corps, the records of which we have carefully studied, the number of cases of typhoid fever according to our estimate was 9660. This is equivalent to 21.56 per cent. In the Fourth Army Corps the percentage seems to have been somewhat less. However, the records of some of the regiments of this corps were not well kept, and we can not be so positive concerning the number of cases.

44. *Army surgeons correctly diagnose a little less than half the cases of typhoid fever.*—The total number of probable cases of typhoid fever among the regiments studied at Chickamauga was 9660. Of these 4068 were diagnosed typhoid fever either by regimental or hospital surgeons. Most of the cases improperly diagnosed were sent to general military hospitals, or to civil hospitals with the diagnosis, "malaria." In 80 out of 85 cases sent from the Fifth Maryland to civil hospitals in Baltimore, the diagnosis was changed from malaria to typhoid fever. Of 98 cases sent from the Eighth New York to hospitals in New York City, all were recognized as typhoid fever by the physicians in each of the hospitals, while the majority of these had been entered on sick reports under other diagnoses. The failure of regimental surgeons to properly diagnose many cases of typhoid fever is easily explained. Orders required, very properly, that every man sick for forty-eight hours should be sent to the division hospital. It will be seen from this that the cases were not under the observation of the regimental surgeon for a sufficient time for him to make a diagnosis. There is also some excuse for the failure of the surgeons at the division hospitals to recognize all the cases of typhoid fever. Many of the less severe of these cases remained in hospitals for a short time, and were furloughed home, or forwarded to some general hospital.

45. *The percentage of deaths among cases of typhoid fever was about 7.5.*—Of the 9660 cases already mentioned as occurring among certain troops at Chickamauga, 713 died. This gives a death-rate of 7.38 per cent. This corresponds closely with the death-rate for typhoid fever in those places in which most accurate records have been kept. In the city of Hamburg, during the years 1886-87, there were 10,823 cases with a death-rate of 8.5 per cent. Brand has collected 19,017 cases treated by cold baths with a mortality of 7.8 per cent. Of the 2293 cases treated in some of the larger hospitals in this country in 1897, 9.24 per cent. died. Further details concerning the mortality in typhoid fever are given in our report.

46. *When a command is thoroughly saturated with typhoid it is probable that from one-third to one-quarter of the men will be found susceptible to the disease.*—I am inclined to believe, but desire to state it as an opinion, that typhoid fever disappeared in some of the regiments only after all the susceptible material had been exhausted. This was probably true in all regiments which had 400 or more cases.

47. *In military practice typhoid fever is often apparently an intermittent disease.*—This fact is shown especially in the study of the Eighth New York. Please bear in mind that I state that typhoid fever is apparently an intermittent disease. I do not mean that the apparent intermissions are afebrile; I only mean that the men sick with this disease had periods of improvement which were so marked that regimental surgeons often returned the men to duty, probably at the request of the men themselves.

48. *The belief that errors in diet with consequent gastric and intestinal catarrh induced typhoid fever is not supported by our investigations.* This belief, which was formerly held by many, is founded on false conclusions arising from erroneous conceptions of the etiology of the disease. Moreover, the early symptoms of typhoid fever are often confounded with those of simple gastro-intestinal catarrh.

49. *The belief that simple gastro-intestinal disturbances predispose to typhoid fever is not supported by our investigations.*—Our studies have forced us to come to the following conclusions concerning the relation between typhoid fever and preceding temporary disorders, including those diagnosed as diarrhea, enteritis, gastro-enteritis, gastroduodenitis, intestinal catarrh, gastro-intestinal catarrh, gastric fever, and simple indigestion: (*a.*) The temporary gastro-intestinal disturbances of May and June had but little if any effect on subsequent infection with typhoid

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fever. (*b*) The temporary gastro-intestinal disturbances of July and August, instead of predisposing to typhoid fever, gave a certain degree of immunity against subsequent infection with this disease.

50. *More than* 80 *per cent. of the men who developed typhoid fever had no preceding intestinal disorder.*—In 2763 cases in which this point was especially investigated, 2356 were not preceded by any intestinal disorder.

51. *The deaths from typhoid fever were more than* 80 *per cent. of the total deaths.*—The percentage of deaths of typhoid fever to total deaths is not so high if we accept the diagnoses given in the official reports.

52. *The shortest period of incubation in typhoid fever is probably something under eight days.*—This statement is founded on data obtained by a study of typhoid fever among the hospital corps, men and women nurses at Chickamauga. The details are given in our report.

53. *One who has lived in a camp in which typhoid fever is prevalent is liable to develop this disease any time within eight weeks after leaving such a camp.*—The particulars bearing on this statement are given in the history of the Fifth Pennsylvania.

MEDICAL PROGRESS.

Statistics and Operative Treatment of Rectal Carcinoma.—J. Pichler (*Archiv f. klin. Chir., Bd. 21, Hft. 1, 1900, p. 229*) discusses this subject. The observations are made from the various methods of approaching the site of disease, namely, bloodless divulsion of the sphincter ani (Simon); circular incision of the anus (Lisfranc); posterior division of the sphincter (Dieffenbach); posterior linear incision with preservation of the anus (Kocher); resection of the coccyx (Kocher); resection of the sacrum in part, unilaterally (Kraske), transversely (Bardenheuer and Rose), obliquely (Hochenegg); temporary resection of the sacrum and coccyx (v. Heineke, Levy, Schlange, Kocher, Hegar, Rydygier); parasacral division of the soft parts of the sacrum without resection of bone (Zuckerkandl, Wölfler, Schelky); vaginal approach (Liermann). The oblique method of Hochenegg is the one carefully compared with all the others. This operator had in all 119 cases of carcinoma of the rectum treated in this way with the following results: There were but 10 deaths, distributed as follows, capillary bronchitis, gastro-intestinal hemorrhage, cerebral embolism, internal incarceration. These four are no more attributable to this type of operation than to any other severe surgical procedure and should, therefore, not be counted as affecting the statistics. The other six may be ascribed directly to the technic, although here again are two fatalities due to hemorrhage from varicose veins about the vagina. If these are discarded the final four deaths all due to sepsis, make the percentage 3.4; if counted the record is 5.04 per cent. Of 583 reports of all known forms of operation 81 died making the proportion 14.3 in the hundred; of the purely perineal avenues of approach 217 records were collected, 37 deaths or 17 per cent. The value of Hochenegg's method of sacral resection is claimed to be in the wide exposure of the field and the perfect drainage obtained. In no case was the bleeding from the bone margins a factor. The review of the subsequent histories of these cases gives the following data: Ten deaths more or less directly connected with the operation: 14 patients disappeared from view; 40 died of relapses with or without metastases, with an average prolongation of life of 21.4 months (individually these 40 lived as follows, 7 about one year, 12 over one year, 16 over two years, 3 over three years, 1 over five years, 1 over eight years); 8 further cases died of intercurrent disease (of these 2 of tuberculosis in about one year, 1 of psychosis after one year, 2 of apoplexy in about eight years, 1 of pneumonia after three years, 1 of cancer of the tongue after eighteen months; 1 of endocarditis in four years); 15 have partial subsequent histories, but it is certain that 4 of them lived three years, 2 after six years; 32 are still living (of these 5 over three years, 2 after four years, 3 over five years, 3 after six years, 1 over eleven years, 1 after twelve and three-quarter years, making 29 living after three years or more, the remaining 3 are living less then three years after the operation. If we stop to figure out the percentage of those living three years or more we find 52 cases which can not be counted (10 deaths, 14 without subsequent history, 8 lost sight of about the third year, 20 who had not yet reached the third year, although still alive), leaving 67 cases among which are the 29 above three years, 43.3 per cent. A word must be said about the continence of the rectum after the operation. First, complete control after simple suture, 5 cases; after invagination of the upper into the lower segment and suture, 24 cases; after spontaneous closure of a fistula, 3 cases; after plastic treatment of the same, 2 cases. Second, a sacral artificial anus was established from before backward in 50 cases, from rupture of the suture line in 27 cases. Third, the anus was made in its usual site after ablation of the sphincter in 8 patients. The great majority of the complete-control cases followed their ordinary avocations. Two women had children normally after the the operation. Another series of them had bougies passed for a variable time. One acquired a sacral hernia which was controlled by apparatus. Two patients complained of weakness and pain about the sacro-iliac joint. Those with artificial anus soon acquired skill in management and went quite comfortably about their work. The author's experience with recurrences was that these always began in the periproctitic tissue and by pressure and direct extension made colostomies necessary. Occasionally, the cancer extended between the bowel and the bone and gave other

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terrible outward manifestations. Even these cases had been benefited because the involvement of nerves, urethra, bladder and other organs had been postponed, as is not the result of simply doing a colostomy early as a palliative measure. As to the etiology of these cases, 72 were males, 47 females; age limits twenty-one to seventy-two years; ages predominating forty to sixty; out-door work was the commonest vocation; two were brothers each operated on within one year; one was treated for carcinoma of the rectum and a year later for carcinoma of the tongue; one young woman appeared to have acquired it by using for enemata the same douche nozzle as her cancerous mother; pronounced alcoholism was frequent. In addition to rectal cancer Hochenegg has used this method in 49 other cases with 8 deaths, distributed as follows: Malformations, prolapse and stricture of the rectum, retroversions of the uterus, cystic tumor of the parametrium, myomata and carcinomata uteri, sacral tumor, pelvic abscesses, and dystopia of the kidneys.

Sterilization of Catgut.—E. Saul (*Arch. f. klin. Chir.*, 1900, *Bd. 21, Heft 1, p. 285*) says that chemical causes of suppuration may be present as well as bacteriological. Under these must be remembered: (1) Ptomains in the gut itself which may be best destroyed by boiling alcohol. (2) Fatty substances covering the catgut during manufacture. Boiling alcohol will remove these more completely than soap and water. (3) Argentic salts, which are present in catgut impregnated by the method suggested by Credé. (4) Corrosive sublimate suppuration in virtue of soaking the gut in its solutions. It is impossible to remove it from the substance of the gut because it is chemically combined therewith. Carbolic acid has no such affinity. This acid may be dissolved out by pure alcohol. If evaporation occur the concentration resulting may approach toxic limits. It is entirely true that experimentally bichloride of mercury is of higher disinfecting power than carbolic acid, but the experiments of the former involve an error, while those of the latter show none. One is consequently subjected to an unavoidable disappointment if disinfection is founded on a corrosive sublimate method. Jacobi, working under Rosenbach's direction, destroyed with boiling alcohol in fifteen minutes anthrax spores, which resist boiling water about twelve minutes. For this reason shorter exposures were not attempted. Hofmeister killed the bacillus subtilis with boiling alcohol in two hours. This germ withstands boiling water one and a half to two hours. The conclusion is almost inevitable that boiling in alcohol is almost as effective as boiling in water.

Histology of Leucocytes and Spores.—Continuing the research work with his new stain, K. Nakanishi (*Münch. med. Woch.*, May 15, 1900) adds the following to complete his former article: The best criterion of the vitality of leucocytes is the intensity with which their nuclei take up the stain. By this method it has been found that 3-5 per cent. of the polynuclear leucocytes of normal blood show beginning degeneration, while in shed blood leucocytes with undegenerated nuclear protoplasm could still be demonstrated after four weeks, provided proper preservation was obtained. The cell-division of bacteria and the genesis of their spores could be well studied with the new stain. The nucleus forms an hour-glass shape and soon divides and the daughter-nuclei will migrate toward the poles of the cell which now swell and also undergo division through the development of a partition in the middle. When unfavorable circumstances exist, a differentiation in the cell-protoplasm will occur since half of this will remain unchanged while in the other half the chromophilic matter will concentrate itself about the nucleus leading to an apparent swelling and elongation of this. A membrane forms and the mass will lose its affinity for the dye and appear like a minute fat-droplet. The uninvolved protoplasm of the original cell will be more and more encroached upon by the growth of the spore which soon becomes free.

The Loss of Hair.—Alopecia, although sometimes depending largely on hereditary influences, nevertheless in a majority of cases is probably due to a curable disease of the scalp and, hence, the statistics and treatment in regard to this condition given by G. T. Jackson (*Med. Record*, May 26, 1900) are especially interesting. Detailed information is given of three hundred cases in private practice and the following inferences were drawn: It is very probable that the loss of hair is much more frequent among men than women and although bachelors seem especially prone to this misfortune personal pride no doubt influences the statistics somewhat, and it is not likely that the married or single state has any influence in producing baldness. A great majority of the patients lead indoor lives and this, when coupled with worry and nerve-strain, is a predisposing, if not a determining, cause of baldness. Sixty-six per cent. of cases began before the thirtieth year and it would seem if one passes this age without showing signs of incipient baldness, the chances for keeping the hair intact are very much increased. As to the causes of the loss of hair heredity is a predisposing factor in a majority of cases and a determining cause in some. All debilitating diseases predispose to loss of hair and dandruff in some form is the exciting cause in over seventy per cent. Positive results in the treatment of this condition were obtained by the use of precipitated sulphur, ten per cent. in a good cold cream, with or without either salicylic acid, three to five per cent., or extract of jaborandi, a dram to the ounce. An ointment composed of ammoniated mercury gr. xx., calomel gr. xl., in an ounce of vaseline is also of value. Resorcin in solution with alcohol and a few drops of castor oil is recommended by some. After dandruff has been checked massage is very useful in stimulating the growth of

the hair. The sulphur preparations are used once every day for three days and then the head is shampooed. The ointment is then applied every second day for ten days and continued twice a week for some time. Resorcin is used at first in three- and then five- or ten-per-cent. solutions night and morning.

Mammary Epithelioma and Tuberculous Peritonitis.—Le Dentu and Morestin report the following case (*Revue de Chirurgie,* 1900, p. 425): The patient, an Englishwoman, aged twenty-seven years, demi-prostitute, appeared April, 1897, at the Broussais Hospital; she was tall, thin, and emaciated; there was a history of menstrual irregularities and syphilis; otherwise no illnesses. Breasts, always abnormally small, were suddenly attacked by violent enlargement with pain, discomfort and dragging weight; within two days their volume had increased about ten-fold and after two weeks in a stationary state were first seen. On examination they were in marked contrast to the emaciated patient, uniformly tense, enlarged to the size of the head of a six-year-old child. Their skin was slightly modified, somewhat rosy, thin, tense, transparent, showing the veins beneath much engorged. Palpation showed beneath slightly movable skin, each breast firm to hard, uniform surface, no lobulations, depressions, fluctuation or softening, no circumscribed outline and no gland-tissue differentiated. This was incorporated in the extensive infiltration, which was movable on the deep parts. No axillary nodes. No secretion present in the nipples. No subjective symptoms. The diagnoses offered were inflammatory infiltration, acute bilateral mastitis and fulminating carcinoma. The last appeared most probable, but hardly agreed with the hyperacute onset. Under gentle pressure in one week the size and hardness decreased, but again relapsed finally to improve again. During these changes there were no systemic manifestations. After a few weeks these acute conditions had disappeared when many small hard irregular nodular partially-fixed masses incorporated with the gland-substance were felt, especially in the lower and outer part of both breasts, but most distinctly in the right. Affected lymph nodes now appeared markedly in the right, slightly in the left axilla. Skin still normal. Nipples progressively retracting. Breasts movable still beneath the skin and upon the deeper tissues. In June tuberculous peritonitis originating in the uterine appendages appeared and suggested a tuberculous invasion of both breasts along with carcinoma. No other tubercular lesions nor other systemic symptoms were apparent. November 5, 1897, laparotomy was done with relief of the peritonitis, which was found to be well marked and general. Prompt recovery. Discharge late in January, 1898, much improved, with the breasts also for the third time softer. The patient returned in May, 1898, with both breasts of stony hardness, right larger, both nipples deeply retracted, impossible to evert or pull them out, axillary nodes much affected. The skin of the left organ appeared still normal but the right was invaded by very numerous small nodules, which the patient refused to have removed and examined pathologically. Without any tubercular lesions appearing elsewhere the peritonitis relapsed, requiring repeated aspirations. Death occurred September 10, 1898. The autopsy showed the extent and degree of the peritonitis; no pulmonary or other foci. The breasts were indurated and cystic. The cystic fluid inoculated tuberculosis into guinea-pigs. The skin was invaded by inflammatory and proliferative changes. The gland areas showed typical epithelioma. There was absence of tuberculous tissue anywhere in these organs. The axillary glands showed cancerous invasion. The diagnosis was finally bilateral cancer with deposits of tubercle bacilli accounting for the inoculation results, but of too recent occurrence to cause tubercles.

Importance of the Anterior Incision for Resection of the Hip.—According to Rochet (*Revue de Chirurgie,* April 10, 1900) of the posterior incisions Langenbeck's rectilinear and Ollier's angular are the best. Ollier has taught that the incision may occupy any part of the area included in a Y the vertical stem of which is applied to the external surface and posterior border of the femur and posterior ascending branch directed to the posterior superior spine, while the anterior upper arm points half-way between the anterior superior and the posterior superior spine of the ilium. Free exposure of the bone is gained by either of the above methods, but at the expense of several of the muscles of the region. In young subjects where the trochanter must be reached Ollier also uses an incision postero-externally to it, convex downward. With this the trochanter and all its muscle-attachments are laid bare. He does not condemn the anterior or antero-external method, recognizes its absence of damage to the muscles but claims it affords less perfect drainage than the posterior incisions. E. Vincent reports 52 cases in which the trochanteric exposure was resorted to with good results. Up to 1895 the author always followed the posterior avenues of treatment, but has since then made the anterior incisions with entirely good results. The technic is similar to that enunciated long since by Schede, differing slightly. The incision begins just below the anterior superior spine of the ilium on the antero-external aspect of the thigh, slightly internal to the prominence of the rectus femoris, descends vertically 3-5 inches, and exposes the muscles, which Schede separates bluntly, carrying the rectus and sartorius outward and the psoas-iliacus inward, but the author retracts the sartorius and psoas-iliacus inward and the tensor fasciæ latæ and rectus femoris sharply outward. The field thus produced shows the base of the neck more freely and a wound whose margins are not restricted by the sartorius whose oblique fibers fix the external lip in the

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former procedure. For the further wide access to the capsule the psoas tendon must be boldly separated from it by blunt dissection with a curved sound. As the division advances the muscle may be more and more retracted inward. One does not meet with any nerves or vessels of importance. The capsule is then incised from without along the axis of the neck and dividing the cotyloid ligament facilitates the dislocation, which with the more or less altered head is easily accomplished by forcible extension, outward rotation and pushing upward. The ligamentum teres is then divided. If the neck is to be resected close to its base the capsule must be loosened everywhere to the margins of the trochanter. More space can be gained, as in cases of tuberculosis with much suppuration and of complete or partial ankylosis by making a short transverse outward division of the rectus for part of its width, beginning preferably at the lower end, occasionally at the middle of the primary incision. The vastus externus and internus compensate for this damage, while the buttock remains untouched, which in the posterior incisions is irretrievably injured. After the ablation of the head and neck the cavity is wide open for the investigation of all the hard and soft parts much better than in the posterior operations, except those situated behind and below the joint which in that method are openly in view. Nevertheless, the anterior incision gives sufficiently unrestricted exposure to render treatment easy. The conclusions reached are that the posterior method is the better in partial or absolute ankylosis, in extensive suppuration and widespread tuberculosis, by the larger exposure and more direct drainage. That the anterior incision is the better in young subjects for coxalgia, for separation of the head and in general in all cases because it does not injure the muscular support and action of the buttock, renders original replacement and subsequent maintenance of apposition of the bones more easy and efficacious, makes the renewal of dressings less trying for the patient and attendants, exposes the important part of the dressing less to infection from fecal matter, and, finally, when drainage may fail, small counteropenings posteriorly will suffice to obviate the difficulty.

Epicarin in Dermatology.—The fact that most antiparasitic remedies are too irritating for delicate skins has led C. G. Pfeiffenberger (*Klin. therap. Woch.*, May 13, 1900) to try epicarin with the best results. Epicarin is a derivative of the naphtol series and constitutes a reddish powder of slight acid odor which in the form of a seven-per-cent. ointment is especially indicated in scabies and prurigo of children. A marked phenomenon is the rapid disappearance of pruritus. After one or two inunctions the skin will become red and dry with a tendency toward cracking. To prevent this and to hasten desquamation, and at the same time to control the coexisting eczema, it is advisable to resort to diachylon ointment, followed on the next day by a warm bath, and returning to epicarin only when renewed pruritus appears. The duration of the treatment is usually less than nine days. In eczema pure and simple, epicarin does more harm than good.

Remarks on Diphtheria.—J. W. Jervey (*N. Y. Med. Jour.*, June 2, 1900) advances many useful opinions with reference to the diagnosis and management of diphtheria. The atypical forms he classifies according to Koplik as follows: (1) There may be no local manifestations of membrane, but a slight angina with croupy cough. These cases may, however, convey a severe disease to others. (2) There are cases in which the tonsils are covered by a pultaceous exudate, but no consistent membrane is present. (3) Cases may present a punctate form of membrane, isolated and usually on the surface of the tonsils. (4) Cases which begin and run their entire course as a simple follicular tonsillitis. (5) Heubner describes cases, usually secondary, in young persons the subjects of wasting diseases, such as rickets or tuberculosis. (6) A mild chronic type of diphtheria has been observed by the author, with or without an accompanying membrane which usually appears in the nose or nasopharynx. As the diagnosis is so difficult, or even impossible, in these atypical cases, a microscopic examination is almost imperative, not so much on account of the recovery of that particular patient as affording knowledge which may prevent the spread of disease. The author states that he believes that a diphtheria infection is added to about twenty per cent. of all scarlet-fever cases. He also says that the diagnosis of diphtheria is frequently made for the first time when certain post-diphtheritic lesions are recognized. An intimate connection between diphtheria and acute rheumatism is also suggested by the author who urges that both are specific infectious diseases, causing serious local disturbances by the formation of fibrinous exudates, and showing marked systemic toxemia. Diphtheria is most frequent in children from one to fifteen years of age, while rheumatism is most commonly seen from fifteen to forty.

Uterine Tuberculosis.—Three cases of this affection are described by Michaelis (*Beitr. z. Geburtsh. u Gynæk.*, 1900, Band 3, Heft 1). In the first a primary cervical focus had appeared The macroscopical diagnosis was a cancerous invasion of the lips of the os uteri. Total hysterectomy was done and no recurrence locally or generally had become evident after three and a half years. In the other two cases the tuberculosis was secondary to a polypus of the body in one case, and to a secondary cervical disease in the third patient. In all there was hyperplasia of the glandular and connective tissue, metaplasia of the epithelium and changes of the epithelium and stroma cells into an epithelioid type.

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A WEEKLY JOURNAL

OF MEDICAL SCIENCE.

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SATURDAY, JUNE 9, 1900.

FIFTY-FIRST ANNUAL MEETING OF THE AMERICAN MEDICAL ASSOCIATION.

As might have been expected at this season of the year Atlantic City proved a very attractive place for medical men. The record registration, that of the annual session at Philadelphia three years ago, when 1994 members were present, was reached on the second day of the meeting. The number of medical men from the East was especially noticeable this year. New York sent a larger delegation than ever before. The awakening interest in the New York State and County Medical Association had had a very noticeable effect on New York interest in the National Association. It seems clear that the unfortunate division of medical society interests in New York which has kept the Empire State from exercising her due influence in National medical matters will soon be bridged over by the realization that a great National Association, both powerful and dignified, can accomplish almost incalculable good in the betterment of present medical conditions in this country.

Probably no presidential address to the Association in recent years has been listened to with such careful attention as was that of Dr. Keen, and none greeted with more enthusiastic marks of approval or more generous applause. The address appears in the present issue of the MEDICAL NEWS and deserves faithful perusal by all who were not at the meeting. In Dr. Keen's hands the old antivivisection question becomes almost new.

The questions of endowment for medical teaching and research received a dignified presentation that puts the matter clearly before the public. The comparative endowments of medical and theological schools show how much the existence of the private medical school in the past has hampered the cause of medical education. It suggests a vista of most encouraging possibilities now that medical schools have become in fact great public institutions.

A feature of these yearly meetings of the American Medical Association that is every year growing in significance is the sessions of auxiliary bodies of medical men representing special phases of professional life. The National Confederation of Medical Examining Boards, the Association of Medical Colleges, the American Academy of Medicine, the American Medical Editors' Association—all are serving the very commendable purpose of bringing men together who are engaged in similar lines of medical work. These annual reunions cannot fail to be of great service in broadening the views, while at the same time adding to the practical knowledge from the experience of colleagues. Standards of medical education are raised as a result of the association of educators seriously intent on training as well as attracting medical students. Members of State Examining Boards learn from each other the lesson of dealing with legislatures for the suppression of quackery by the successes and failures in States other than their own. The present condition of opinion among the members of the Confederation of Examiners seems to show that it will not be long before the privilege of interstate exchange of medical licenses and the fullest medical reciprocity will be a fact and not a dream. In a word, there lies hidden in the proceedings of these related organizations, neglected by the profession at large, unknown even to most of the members of the American Medical Association itself, the story of many a bit of progress that will in the near future contribute not a little to the amelioration of present evils in medicine.

The smallpox epidemic that is reported from various parts of the country occupied the atten-

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tion of nearly a full session of the Section on Medicine. Officers of Health Boards from various States are strongly of the opinion that we are on the eve of a serious outbreak of smallpox in many parts of the country unless stringent precautions are taken to prevents its further spread. Meantime, there are experts in smallpox who insist that some of the epidemics now raging in the South are not true smallpox. Evidently there is opportunity for painstaking investigation that may settle disputed diagnosis and perhaps prove a distinct contribution to nosology.

Discussions on dysentery, yellow fever and rheumatic heart-complications were contributed to by authorities on these subjects. The question, is acute jail and work-house dysentery, as it occurs epidemically in this country, due to the bacillus isolated at Manila by Flexner, is suggested by Osler as well worth investigation. The bacillus icteroides is not unquestioningly accepted for yellow fever, although its cause was well advocated. All are agreed that for the prevention and amelioration of heart-complications in rheumatism absolute rest is the most essential part of the treatment.

The Atlantic City meeting has been the most successful of the American Medical Association to date. The social side of the meeting was most interestingly filled by the arrangements of the local committee and the features of it will long be remembered by the visitors. There was very little of medical politics in evidence this year and the ideal of a friendly meeting of brothers in medicine to discuss subjects of mutual interest was more perfectly fulfilled than ever before.

PERNICIOUS ANEMIA—FREQUENCY AND ETIOLOGY.

IN our editorial on the recent Congress of American Physicians and Surgeons we called attention to the fact that pernicious anemia seems to be much more frequent everywhere, and especially in this country, than has been previously noted.

Until Biermer's article in 1871, none but isolated cases of the disease had been reported. Addison's marvelous discernment and power of synthesis enabled him years before to pick out certain fatally progressive cases of anemia as distinct nosological entities, but his observation attracted little attention and the disease he described was considered extremely rare. At the last meeting of the Association of American Physicians one hundred and fifty cases of pernicious anemia that have been seen by American medical men within the last ten years were discussed. Rarity, therefore, can scarcely be considered a distinctive note of the disease. Practitioners who are expert in blood-work and who are on the alert for pernicious anemia will doubtless henceforth see many more cases of the disease than have been reported in the past.

The cause of the disease remains almost as much a mystery as ever. Two recent contributions to its etiology are of special interest. It has been pointed out in Germany that toxic influences are often at work on the organism during long periods previous to the development of pernicious anemia. In several cases morphinism was a feature of the previous history; in others plumbism. Dr. Grawitz of Berlin has especially insisted on this toxic origin of pernicious anemia. He has seen it in workers in laundries where gas was used for heating purposes and the poisonous products of incomplete combustion were allowed to vitiate the air of the rooms, in which employees were crowded together for twelve to fourteen hours a day. He also insists on the toxins of tertiary syphilis and the sclerotic bone changes they induce, as important factors in the etiology of the intense blood dyscrasia.

Drs. Cabot of Boston and Billings of Chicago, who reported most of the cases at the recent meeting, are agreed that the absorption of toxins from the gastro-intestinal tract plays an important rôle in the etiology of the disease. Constipation has practically always existed for a good while before the development of the pernicious symptoms, and, as Dr. Cabot points out, the mild cases are those which have a tendency to diarrhea. When a corresponding idea with regard to the etiology of chlorosis was broached by Sir Andrew Clark, to the effect that intestinal autoinfection was a prominent factor in that disease, the notion was not at first received with any favor. We have learned to appreciate, however, how important the gastro-intestinal element is in the etiology of chlorotic anemia and doubtless will in time also ascribe to it its due influence in pernicious anemia.

Meantime, this suggestion as to the etiology of the disease seems about to bear fruit for the still more arid matter of the therapeutics of the disease. Mild purgation accomplishes more than any other form of treatment. Besides this hypodermatic injections of normal salt solution, given

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on the theory of washing toxins out of the blood, have proved of some benefit. The only therapeutic agent of promise is arsenic. In some hands this has proved distinctly beneficial, but, unfortunately, in others it has failed to fulfil the expectations aroused by the claims of good observers.

ECHOES AND NEWS.

Testing Filters.—The Philadelphia Bureau of Health is making a test of water-filters with the object of placing them in the school buildings of the city.

Accident to a Physician.—Dr. Justin Herold of New York was badly hurt recently in a collision between a trolley car and a cross-town horse car. His leg was crushed. He was taken to the Presbyterian Hospital.

The Associated Physicians of Long Island.—The spring meeting of this Association will be held at Northport June 16th. The Northport Yacht Club and municipality will entertain the members of the organization.

Father Damien's Companion.—The Rev. Father L. L. Conrady, M.D., is in Philadelphia. He has spent eleven years among the Hawaiian lepers and was with Father Damien when he died. He has lately received the degree of M.D. and will work among the lepers in China.

Philadelphia Health Report.—Deaths for the week ending June 2d were 419, a decrease of 5 from those of last week and 7 from the corresponding week of last year. Contagious diseases: Diphtheria, 56 cases, 9 deaths; scarlet fever, 64 cases, 5 deaths; typhoid fever, 51 cases, 10 deaths. Influenza caused 2 deaths.

Honor Men at Columbia.—The following ten students were the highest in standing at the College of Physicians and Surgeons and are privileged to compete for the Harsen Prizes of $500, $300 and $200 respectively: Otto Hensel, H. G. Dorman, E. L. Beebe, A. W. Bingham, M. G. Seelig, T. J. Abbott, K. M. Vogel, A. W. Habschmitt, E. Moschcowitz, P. E. W. Menk.

The Pathological Institute.—On account of the space required in the present number for the report of the American Medical Association the publication of letters from Dr. Spitzka and Dr. Van Geison, in reply to the communications of Dr. Wise in regard to the Pathological Institute which appeared in the MEDICAL NEWS of June 2d, has necessarily been postponed until our next issue.

The Welsh Festschrift.—Following the Festschrift of Dr. A. Jacobi, we note with pleasure the "Contributions to the Science of Medicine," dedicated by his pupils to Prof. William H. Welsh of Johns Hopkins University on the twenty-fifth anniversary of his Doctorate. This is a magnificent quarto volume of 1066 pages, beautifully illustrated, issued from the Johns Hopkins Press. It contains some thirty-eight articles.

Quarantine Station Visited.—On June 2d Drs. Janeway, Bryant, Peabody, Polk, Biggs, Gardner, McLane, Derby, Draper and Prudden of the Medical Consulting Board of the Department of Health at Quarantine in New York Harbor, visited the boats and buildings of the Department, and also inspected Hoffman and Swinburne Islands. Dr. A. H. Doty was warmly complimented on the condition of the Quarantine Station.

Scientific Men to Meet in New York.—The fiftieth annual meeting and reception of the American Association for the Advancement of Science will be held at Columbia University, New York, during the week beginning June 23d. In this Association are included the fifteen largest scientific societies in America, and among them will be represented the American Chemical Society, the American Microscopical Society, the American Psychological Society and the American Physical Society. Governor Roosevelt will make the address of welcome.

Athletics Barred.—The College of Physicians and Surgeons of Chicago, after an animated debate, has decided henceforth to refuse recognition to athletics and no longer gives official sanction and support to the College football team which has taken so prominent a part in intercollegiate athletic competitions. This step has been taken because experience has taught the Faculty that College athletics have a demoralizing and disturbing influence on the students and interfere with the educational work of the College.

Cornell Commencement.—The second annual commencement of Cornell University Medical College was well attended last night at Carnegie Hall, New York City. Fifty-three graduates received their diplomas from Dr. J. G. Schurman, President of Cornell University. Of this number twenty-one were women gradutes, who in their mortar-boards and academic gowns made a pleasing appearance. Prof. Schurman announced that thirty-four of the graduates have already received appointments in hospitals in this and adjoining cities.

Death of Dr. Miller.—Dr. Truman W. Miller died May 31st at his residence in Chicago. An attack of grip was followed by blood-poisoning. He was President of the Chicago Polyclinic and Professor of Surgery in that institution. He was consulting surgeon to St. Joseph's and the Alexian Brothers' Hospitals; surgeon-in-chief to one or two railroads, and for many years was attending surgeon of the Cook County Hospital. Dr. Miller was born in Seneca County, N. Y., March 2, 1840. He took his first course of studies at Obart College, Geneva, N. Y., and com-

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pleted his education at the College of Physicians and Surgeons, New York.

Faculty Changes.—At the annual election of the College of Physicians and Surgeons of Chicago, which preceded the discussion on athletics and other subjects, Dr. William E. Quine was elected Dean; Dr. D. A. K. Steele, the Actuary, and Dr. William Allen Pusey, Secretary. Dr. Louis J. Mitchell was appointed Professor of Anatomy; Dr. H. E. Santee, Professor of Anatomy; Dr. Frank X. Walls, Professor of Practice of Medicine; Dr. John L. Porter, Professor of Orthopedic Surgery; Dr. D. N. Eisendrath, Professor of Surgical Pathology; Dr. Joseph M. Patton, Professor of Physical Diagnosis. Dr. W. A. Evans has been retained as Professor of Pathology.

Public Health Matters.—There were 426 deaths reported to the Chicago Health Department during the last week, being 76 fewer than the preceding week, and 14 fewer than the corresponding week of 1899. All the principal causes of death show a reduction excepting bronchitis, consumption and heart-diseases. Consumption was the leading cause of mortality. There were 60 deaths recorded from this disease. Deaths from heart-diseases continue to be exceptionally high, 433 having been reported during the week from this cause. There were 11 deaths from measles and 7 from whooping-cough during the week. A reduction of 60 per cent. in deaths from the acute intestinal diseases is also reported, due largely to lower temperature prevailing.

Chicago's "Diploma Mill."—A Post-Office inspector invaded the Metropolitan Medical College on West Van Buren Street, Chicago, last Monday, and arrested four of its officers. At last report the president, vice-president and two secretaries were in prison awaiting the appearance of acceptable bondsmen. The institution is also known as the Independent Medical College and the National Law School, and the evidence shows that its faculty has been selling degrees for the practice of medicine and law at prices ranging from $3 to $200. The inspector who made the arrest says the fraud is one of the largest the postal authorities have ever had to deal with and that the "graduates" of the institution are practising in every State and even abroad.

The Psychology of Crowds.—Some of M. Le Bon's views, as set forth in his book on *"The Crowd"* are well exemplified by the following incident: A free dispensary in Chicago, said to be conducted in the interests of medical students, was attacked on May 31st by a crowd of infuriated Bohemians and Lithuanians. Stories of bodies being dissected in the dispensary had created terror among those ignorant people. On the above-mentioned date a boy disappeared. One of his companions at once reported that he had been waylaid and killed by the doctors. Within a few minutes afterward a mob of several hundred people were at work demolishing the building. They came upon the missing child lying quietly and as happy as his illness would permit him to be. Presently the police appeared and a number of arrests were made.

Obituary.—Dr. Joseph Davis Osborne, a well-known physician of Newark, New Jersey, died on June 2d in his sixty-seventh year. He was graduated from the College of Physicians and Surgeons. He served throughout the war as a surgeon in the Fourth New Jersey Volunteers.—Dr. E. O. Shakespeare, an eminent pathologist, died suddenly of heart-disease in Philadelphia June 1st. He was born in 1846 and graduated from the medical department of the University of Pennsylvania in 1869. He practised at Dover, Del., until 1875, since which time he has resided in Philadelphia. He served on the staff of the Philadelphia Hospital and was at various times president of local and national societies. In 1885 he was appointed by President Cleveland to report on cholera in Europe and India, his report being a most valuable one. He also made various other investigations regarding contagious diseases, studying with Koch in 1886. By Dr. Shakespeare's death Philadelphia loses one of its most tireless and brilliant physicians.

The Bubonic Plague.—Advices from various parts of the globe concerning the progress of the plague are not calculated to relieve the sense of danger which must possess the minds of all who have observed its course. Although Dr. George F. Shrady, during his recent visit to San Francisco in behalf of the *New York Herald,* was able to report that no case was then known to the local health board, he had scarcely left the city before bacteriologic investigation proved a suspicious death to have resulted from the disease. Ten thousand Chinese in that city are now using every means, both legal and indirect, to thwart the efforts of the sanitary officers. The Chinese minister at Washington has been appealed to by his countrymen in San Francisco for aid against what they consider unjust quarantine measures. Temporary accommodations for the segregation of three thousand Chinese upon Angel Island have been provided.—Sixty-one cases of plague are reported at Rio Janeiro in Brazil.—The Argentine authorities have taken advantage of the disappearance of the disease since May 11th to declare the Republic free from the plague; but at the same time they have decided to close the public schools lest it recur.—New cases and deaths are daily reported from Port Said.—India continues to reckon its victims by thousands, and China and Japan are constant sources of danger to our commerce.

The Medical Advertiser.—Interesting features of the recent meeting of the American Medical Association held at Atlantic City were the numerous booths of many of our prominent drug manufacturers, medical publishers, scientific and surgical instrument makers. These booths were very attractively gotten up and claimed much attention from the doctors.

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CORRESPONDENCE.

OUR LONDON LETTER.

[From Our Special Correspondent.]

LONDON, May 31, 1900.

CONFERENCE OF MEDICAL ASSOCIATION ON MEDICAL ORGANIZATION—REFORM OF THE GENERAL MEDICAL COUNCIL DEMANDED—DEPUTATION OF THE BRITISH MEDICAL ASSOCIATION TO THE GOVERNMENT ON THE MIDWIVES' BILL — THE CHAIR OF MEDICINE IN THE UNIVERSITY OF EDINBURGH—APPOINTMENT OF DR. JOHN WYLIE—DEATH OF GEORGE VINER ELLIS, THE ANATOMIST—THE CREMATION MOVEMENT IN ENGLAND — ERECTION OF THE FIRST MUNICIPAL CREMATORIUM — DEMOLITION OF INSANITARY HOUSES AND LEGAL QUIBBLES.

DELEGATES from over fifty medical associations have met at Manchester for a conference on medical organization. Mr. Victor Horsley in opening the meeting alluded to the impossibility of obtaining adequate discussion of the topics to be dealt with at the meetings of the British Medical Association. The General Medical Council is not as fully representative of the profession as it should be, considering the judicial power which it possesses over every member of the profession and its position as arbiter of medical education. The Council is a place of retreat for members of the profession who have practically given up work and have lost touch with the medical schools. Mr. Horsley advocated an annual registration fee for the medical profession similar to that paid by the lawyers, so that by means of larger funds the General Medical Council would be better able to carry on its work. With a strong financial position it would have greater influence on the Government, for the Government looks upon all bodies that approach it in a kind of materialistic way, and if it knows that a body is wealthy it considers that its stake in the country is greater! This argument is certainly a startling commentary by a member of the General Medical Council who ought to know something about the ways of the Government. If such a spirit of sordid materialism dominates the Government in medical legislation which intimately concerns the whole country, rich and poor alike; if in deciding what is for the benefit of the community at large they are to be influenced by the state of the banking-account of the General Medical Council, how will their actions be determined in other spheres where higher motives can have much less weight? Yet there are people who say that financial motives have nothing to do with the policy which brought about the South African War! A resolution that general practitioners should have a much larger representation on the General Medical Council was carried. Resolutions protesting against any legislation that will give a legal status to midwives as a class, in favor of raising the standard of preliminary education necessary for admission to the medical profession, that the right of receiving pupils be restored to general practitioners, and that the benefits of hospitals and medical charities should be limited to persons of limited means, were also carried.

In connection with the Midwives' Bill a deputation from the British Medical Association was received at the House of Commons by the Solicitor General with the object of explaining "the changes which were considered necessary in the public welfare." The deputation considered that the first defect in the Bill was that it contained no penalty for malpractice and that it would be most difficult to reach an offender. The Central Midwives' Board would consist of London men only who could not exercise sufficient control. The Board should be made representative of the different districts in the country. It ought to be made clear that the failure of a midwife to summon medical aid in cases of difficulty or danger was misconduct within the meaning of the Act.

Dr. John Wylie has been appointed to the Chair of Medicine in the University of Edinburgh rendered vacant by the death of Sir Thomas Grainger Stewart. He is fifty-six years of age. He began the study of medicine in the University and graduated with honors in 1865, being awarded a gold medal. He has held the posts of house-physician and house-surgeon in the Royal Infirmary. In 1870 he became a Fellow of the Royal College of Physicians and Lecturer on Pathology in the Extra-Academical School. In 1878 he was appointed Lecturer on the Practice of Physic. In 1876 he was made Assistant Physician to the Royal Infirmary, and in 1882 Physician. In addition to the teaching of medicine implied by these appointments Dr. Wylie has in connection with his work as an extra-academical lecturer conducted special supplementary summer courses on medical ophthalmology, laryngology, and electricity. When Professor Fraser went to India on the Plague Commission Dr. Wylie was requested to teach clinical medicine in the University in his stead and to take charge of his wards in the Royal Infirmary. His most important publication is a book on "The Disorders of Speech," which appeared in 1894. His reputation in Edinburgh as a diagnostician and clinical teacher has always been exceedingly high. His lectures and clinics are the most popular in the School. It is noteworthy that Dr. Wylie did not support his application for the Chair of Medicine by a single testimonial, but relied solely on his work and appointments.

The death of George Viner Ellis, F.R.C.S., the anatomist, recalls to the present generation of practitioners a name that was a household word in their student days. His book entitled "Demonstrations of Anatomy" was universally recognized as the standard of the most reliable works extant. He was born in 1812 at Ministerworth near Gloucester, and was apprenticed to a local medical man, but at the instigation of his uncle, Daniel Ellis, F.R.S., he was sent to University College which had been only recently founded. He became M.R.C.S. in 1835, and was elected

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one of the original Fellows of the College of Surgeons in 1843. He was a very successful student and was appointed Demonstrator of Anatomy under Professor Richard Quain. In 1850 he succeeded him as Professor of Anatomy. Together with William Sharpey he co-edited the sixth edition of "Quain's Elements of Anatomy." In 1865, in conjunction with Mr. G. H. Ford, he published "Illustrations of Dissections"—a series of life-size colored plates which found a place on the walls of many dissecting-rooms. He devoted his life to the teaching of anatomy, and labored indefatigably. One of his peculiarities was that he would not allow smoking in the dissecting-room. On one occasion the students petitioned the Council for leave to purify the atmosphere with "the fragrant leaf." The permission was granted, but Ellis sent in his resignation and would not withdraw it until the permission was rescinded. His most important observation was the discovery of the corrugator ani muscle.

In a few weeks the Hull Corporation will have completed the erection of the first municipal crematorium in England. The Corporation determined eight years ago that in the public interest a crematorium was desirable, but, although preparations were at once begun, it has been found impossible to complete the work earlier. Many obstacles and prejudices had to be overcome. The example of Hull has stimulated other progressive cities. A large number of corporations, including Bournemouth, Cambridge, Exeter, the City of London, Sheffield, and Walsall, are seeking powers in Parliament to establish crematories, whilst other towns which have obtained powers are putting them into operation. The Hull Crematorium is a picturesque red-brick building with artificial stone dressing. The chapel is a spacious apartment, twenty-four feet square, and leads to the incinerating-chamber, which is surmounted by a seventy-foot tower forming a screen to the chimney. The interior of the cremating-chamber is quite invisible to the mourners. The coffin is placed upon a catafalque, and when the committal sentence is reached in the religious service it passes noiselessly by means of a hidden mechanism through curtains into an intermediate chamber. The curtains fall before the door of the cremating-chamber opens. The chamber is filled with an intensely oxidizing gas in a state of incandescence. The process occupies about an hour and there is no noise, smoke or flame. The ashes are placed by mechanical means in an urn, so that the remains are not handled in any way.

An extraordinary result of legal proceedings for the demolition of houses unfit for habitation in Southwark shows that the reputation of English law as the embodiment of common sense is not always well founded. When the case came before Quarter Sessions the counsel representing the owner argued ingeniously that as nobody lived in the houses they were not "dwelling-houses" within the meaning of the Act under which they were ordered to be abolished. The Court quite taken aback by this quibbling allowed the point to be remitted to a higher court which again sent the case back to the Quarter Sessions to determine how much of the premises was a danger to the public health. It was then alleged that that portion of the property had been demolished. Although the Vestry were not satisfied with the condition of the property, no order could be obtained and each side had to pay its costs.

SOCIETY PROCEEDINGS.

AMERICAN ACADEMY OF MEDICINE.

Twenty-fifth Annual Meeting, Held at Atlantic City, June 2 and 4, 1900.

FIRST DAY—JUNE 2D.

The meetings was called to order at 11 A.M. by the President, Dr. G. Hudson Makuen of Philadelphia. The Secretary, Dr. Charles McIntire, read the minutes of the Columbus meeting. The Treasurer reported that the Academy is free from debt, but that the balance on hand is not as large as usual. The year has been marked by several losses by death.

Among the Fellows elected to the Academy were Drs. O. A. Emberly of Massachusetts, Ella B. Everett of Philadelphia, Thomas Snyder of Niagara Falls, A. O. J. Kelley of Philadelphia, J. Addison Joy of Atlantic City, Judson Daland of Philadelphia and W. R. Powley of Atlantic City. Drs. Risley and Carhart were appointed Auditing Committee, and Drs. Connor of Detroit, Jackson of Denver and Wilson of Columbus were appointed on the Nominating Committee.

Principles Respecting Specialism and Advertising.—The Secretary read the report of this Committee, which first defines the word specialism, as used by the Committee and presents the following propositions: (1) Specialism is not only desirable; it is unavoidable. (2) It is proper for a physician to seek to perfect himself in the direction of his greatest ability, even to the neglect of some other field of practice. (3) A specialist as well as the general practitioner may have a practice directly with his patients, or indirectly through consultation. (4) In his direct practice, a specialist ought not to be an exclusivist. In his consulting practice, a specialist stands in a different relation to his fellow-physician than do general practitioners in consultation. He is rather a coadjutor than a consultant. (6) Specialism *per se* does not create discord in the harmony of professional intercourse. (7) The time to enter upon a specialty cannot be predetermined by rule.

As to advertising: (1) No physician can escape advertising. (2) The true physician serves humanity first, the earning a livelihood being secondary. (3) Any method of advertising reversing this order is not to be commended. (4) Any

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method of advertising which only seeks to inform the public that the advertiser is ready to be of service is permissible. (5) The above principles are fixed, their application varies with the environment. (6) Regulations restricting advertising should be equal in their action.

The Medical Aspect of the Home.—A Symposium on this subject was then presented in several papers.

The Essentials for a Healthful Family Existence.—Dr. Rosa Engelmann of Chicago read a paper on this subject and stated that healthy family-life depends on health, character, intelligence, industry, frugality, mutual affection, forbearance and the wherewithal to furnish a happy and healthy environment. Of supreme importance for the development and maintenance of these attributes is the separate-housing system. Among the essential conditions mentioned are fresh air and sunshine, adequate pure water-supply and good plumbing, healthful employment, healthful recreation, educational facilities.

Early Training to Avoid Degeneracy.—Dr. J. Cheston Morris of Philadelphia furnished as a text an incident of a little girl pountingly disobedient and the necessity of an early training in submission to authority. Acts speak more effectively to children than mere exhortations or commands. Dr. Morris stated that the training of self-control must begin early in life and that the reign of law and the influence of patient example are necessary to bring them about. Heredity so-called is often but the unconscious imitation of the parents' peculiarities by the very young.

Medical Supervision of Children in Their Homes.—Dr. J. Madison Taylor of Philadelphia said that the child is supposed to be capable of satisfactory development if allowed moderately good opportunity and environment, and is seldom or never systematically directed in its physical growth or development. The consequence is that very many faults of both mind and body are acquired, many of which seriously disable the subsequent activity of the child. He stated also that no attention is paid to the mating of the parents, as is done in the case of domestic animals, and consequently many faults of inheritance or heredity show themselves. He showed that the province of the physician is limited as yet to the relief of actual illness and to repair the effects of disease. If only he were encouraged to direct the growing child his province as an apostle of preventive disease would enable him to accomplish infinitely better results than merely the repair of damage. The question of motherhood was discussed and the difficulties which arise from her lack of knowledge of those things which constitute a good mother. He stated that the first thing needed is that mothers should realize that the best specimens of human beings are not likely to come from haphazard up-bringing. He thought it safe to assume that skilled direction from a medical adviser will soon become recognized as of the greatest importance and that the children of the poor should be provided with opportunities for skilled physical direction. This could only be done by educating the public to realize the importance of this fact and by securing the cooperation of teachers of all grades in furthering such work.

School Hygiene and Medical Inspection of Schools.—Dr. W. M. Carhart of New York said that school-life should be harmonious with, and supplementary to, home-life. The growth of the child in bodily vigor, in strength of character and in intellectual attainments, should be as continuous at school as at home. School hygiene was divided into: (1) Hygiene relating to the personal habits of the child, necessity for cleanliness both of body and clothing. Avoidance of infection and exclusion of contagious cases. Physical basis of vice. Vicious habits to be discovered and corrected. (2) Hygiene in relation to methods of instruction. All children are not alike and should not be taught as if they were. Backward and dull children need special care. An inattentive child is usually defective in special senses and may be possibly slightly deaf. Weak eyes should also be borne in mind. (3) Hygiene in reference to the school environment. In this connection the writer said that school-buildings should be well located with adequate playgrounds, well furnished and built and with dry cellars. Good ventilation and clean rooms and lavatories with modern plumbing are also necessary. Desks and seats should be adjusted to the size of the children.

Defectives and Delinquents Inside and Outside the Family.—Dr. James W. Walk of Philadelphia gave the sociological definition of defectives and delinquents. The influence of defectives on other members of the family circle was considered, as was also the influence of aggregate life (in hospitals, asylums, etc.) on defectives. The influence also of family-life on defectives was spoken of. Delinquents and their environment were discussed in a similar manner. The author said that efforts to benefit defectives and delinquents should be consistent with the welfare of society in general.

Alcoholic Intoxicants and Home Sanitation.—Dr. J. W. Grosvenor of Buffalo considered the effect on moral character, intellectual development and physical integrity of its inmates. Two remedies of value for the relief of the unsanitary condition of the home were suggested, *viz.*, education and law. The writer considers that the enlightenment of the public along all sanitary lines is incumbent upon all boards of health. In the conservation of public health the medical profession has an important position. It is the opinion of the writer that the physician should not only by precept teach the danger of alcoholic intoxicants, but place himself and his home outside the use of alcoholic stimulants of every description. The clink of the inebriating cup should not be heard at his festive board.

The Hygiene of Vision in the Home.—Dr. S. D. Risley of Philadelphia made reference to the family living-room—its origin, pleasures and evils.

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The natural and artificial lighting of the home were spoken of and the importance of sufficient and suitable illumination of the home in conserving the general health and vision of the family was emphasized.

Physician's Influence Regarding Vacation Schools.—Dr. Helen C. Putnam of Providence, R. I., said that inventions and municipalization have altered the popular minds that free schools were originally planned to supply and that to-day they should do more for citizenship, character-building and physical development. In the author's opinion liberally-educated medical specialists are needed in this readjustment. Reference was made to vacation schools started by philanthropists to protect from their environment the children living in the poorest wards, and developing into a permanent institution of direct influence upon educational systems. In these schools no books are used, pedagogic excursions into the country are made, manual training by wood and iron work is taught, esthetic development of music, color work, and outdoor sketching are encouraged, outdoor gymnastic games are indulged in and self-government in place of autocratic rule obtain.

Objects of Academy.—In his address to the Academy the President, Dr. G. Hudson Makuen, said that the American Academy of Medicine was instituted about a quarter of a century ago. Its chief object originally was to promote the higher education of medical men. Although it has been suggested that there appears to be no longer good reason for its continuance, never in the history of medicine, or in the history of the world, has there been so great a field for medico-sociologic investigation.

That the problem of the care and treatment of the so-called defective, delinquent, and dependent classes, has not been solved is shown by the authentic statement that these unfortunate classes are increasing in a proportion far greater than the increase of our population.

In precivilized times, only the fittest survived. Now we are endeavoring to establish a new law and our best efforts are being directed towards the survival of the unfit. We teach the lame to walk, the blind to see, the deaf to hear, and the dumb to speak.

Members of this Academy are formulating plans for a scientific process of selection. Its essential features may be surmised to be a revision in the immigration laws and the laws regulating the marriage contract. For those who respect not the law there has been suggested another remedy—that of asexualization. This with little doubt during the early part of the next century will become a legalized practice.

Our treatment of the degenerate classes has been inadequate and unscientific. Indiscriminate dispensary service is probably the most depraving and the most demoralizing of all the indiscriminate charities.

Pauperism, criminality, insanity are all one interdependent family, and if we would diminish one, we must attack all three. Following close upon the evils of indiscriminate charity are those of indiscriminate institutionalism. It is said that the city of Philadelphia supports at an enormous cost a benevolent institution for every 10,000 of its inhabitants.

In the treatment of criminals, institutionalism has a somewhat wider field, because criminals must be detained for a longer or shorter period of time; but there is much room for improvement in the character and conduct of these institutions also.

The hope of the future of our country is in the young, and if we would strike at the very root of crime, pauperism and mental deficiency we must improve our methods of education. The chief feature of the education in the Elmira Reformatory which produces marvelous results is manual training. Brain power, as Professor Christian of Yale University has demonstrated, may be developed by mere muscle training, independently of any special mental activity and if this be true it is reasonable to suppose that the highest cerebral development must come from a judicious combination of mental and muscle action.

SECOND DAY—JUNE 4TH.

At the opening of the morning session the Nominating Committee announced the following nominations: President, Dr. S. D. Risley of Philadelphia; Vice-President, Dr. C. M. Culver of Albany, Dr. Rosa Engelmann of Chicago, Dr. G. G. Groff of San Juan, Dr. W. C. McClintock of Detroit; Treasurer and Secretary, Dr. Charles McIntire; Assistant Secretary, Dr. Alexander Craig of Columbia, Pa. The selection of time and place of meeting was placed in charge of the Council. The candidates were elected as read.

Dr. Grosvenor of Buffalo in referring to one of the papers on the parental teaching of children spoke of a custom of some parents in teaching their children to call the parents by their first names. He had observed this custom in his own city. He feared that if a strong protest were not made against it the custom would become more prevalent.

In the discussion of the paper of Dr. Engelmann of Chicago, Dr. Knopf of New York thought that while very desirable the separate-housing system seemed impracticable. He thought the solution of the problem could be more easily secured in the improvement of the tenements, the destruction of old tenements and the erection of new with new appliances of sanitation. In reference to the early training of children he suggested that the whole problem might be solved by adding to the higher schools for girls a chair of practical motherhood.

Dr. Connor of Detroit thought that the great underlying principle of the papers and discussion was an attempt to find out the weak methods in our art of training men.

Relation of the Academic to the Medical Course.—Dr. Howard S. Hansell of Philadelphia read

by title a paper on this subject, considering the topic under three heads: The State, the School, the Individual. The purpose of the paper was to advocate the admission of the college-bred man into the second year of the medical course.

The Opportunity of the Small Medical College.—Dr. Bayard Holmes of Chicago in this paper referred to the fact of the tendency toward large classes not being consistent with good pedagogy and to the small class and individual supervision being possible in the small school. As requisites were mentioned: A few teachers and leaders of men, with time and adequate salary; suitable buildings and laboratory equipment; a small hospital under the complete control of the college; a well-selected working library, containing the material for the study of medicine; intimate relations between the various departments; a curriculum granting freedom to teacher and student. All of these requisites, it was stated, are possible to the small college.

Neglected Clinical Opportunities.—Dr. S. A. Knopf of New York read a paper on this subject and endeavored to show that in spite of the vast progress many of our medical colleges have made during the past year toward a more thorough curriculum, our clinical teaching is still very deficient, not from any lack of clinical opportunities, but from the neglect to utilize those available. The writer contended that the essentials for a college graduate leaving college feeling that his clinical teaching, if not quite equal to that of any hospital graduate, is at least nearly so, were: (1) A cooperation of all the medical colleges located in one medical center for the purpose of a general and equal utilization of all the clinical material of their city. (2) The appointment of every physician and surgeon attached to a subsidized hospital as a clinical teacher independent of college affiliation, and the payment of a reasonable fee to these clinical teachers for their services rendered as teachers to the students. (3) The suppression of all didactic lectures for second-, third- and fourth-year students during the morning hours. (4) The obligatory presence of every second-, third- and fourth-year student in his capacity as senior or junior interne at the clinic or at the daily hospital visit of his teacher. (5) The keeping by the clinical teacher of a record of attendance and work, to be counted in the final examinations.

Experiences of a Volunteer Surgeon in the Philippines.—Dr. H. P. Ritchie, late Captain and Assistant Surgeon, 13th Regiment, Minnesota Volunteers, St. Paul, said with reference to the transport service that the causes of complaint and discomfort during the first expeditions were unnecessary as shown by the pleasant experiences of the home voyage eighteen months afterward. The effect of the campaign before Manila upon the future health of the troops was considered. The condition of Manila at the time of its occupation and its transformation under American rule was described. The climate was discussed, and the diseases among the troops briefly considered, with their prophylaxis and their danger to the civilian. The paper closed with a plea for instruction in tropical diseases.

"Good Form" in Professional Cards.—Dr. Charles McIntire of Easton in this paper referred to the source of gratification to the Fellows of the Academy of Medicine that there had been almost no necessity to discuss the individual actions of its members. Last year an exception was taken to the wording of a professional card, and the secretary was instructed to correspond with the member whose card was criticised. The present paper was the result of that correspondence classifying a number of professional cards from various parts of the United States.

Medical Editor for the Daily Journals.—As an argument for this need, Dr. Pyle called attention to an article recently appearing in the New York Herald entitled "Sleep-Cure for Nervous Diseases." This cure consisted of "eight grams of *bromine* every two hours in a glass half-full of water." It was further stated in this issue that the discoverer of this rest-cure maintains that rest—absolute, prolonged rest—is the one thing which persons suffering from nervous disorders stand most in need of, and that they can obtain the rest through the agency of 'bromine' better than in any other way."

The Mission and Duties of a True Physician.—Dr. C. F. Ulrich of Wheeling, West Virginia, in this paper said that only he could be regarded as a true physician in the strictest interpretation of the word who is endowed with the peculiar talents necessary for the work belonging to that noble and laborious vocation; who has acquired the high order of general and special education essential to successful work; who never relaxes his efforts to gain more knowledge in his profession as his horizon extends and as new discoveries are made. The true physician should perform the part of an educator by instructing his clients in maintaining good health.

Psychology as Preliminary to Medical Education.—Dr. W. J. Herdman of Ann Arbor, Michigan, said that normal anatomy and histology are essential to a right understanding of normal physiology. Psychophysiology must be known if we would correctly interpret psychopathology and create a rational psychotherapy. The author considered that at the present day a very small per cent. of candidates for the degree of doctor of medicine have pursued a systematic study of physiological psychology. Such knowledge was claimed to be essential to a right understanding and direction of educational methods since faulty methods of education result in disease. Functional disorders would be much better understood and more rationally treated were the physician well trained in psychophysiology. The mental element of disease is largely ignored by the practitioner of to-day, and in this soil left uncultivated by the scientific physician faith cures and other noxious weeds take root and flourish. The writer believes a broader preparation is needed to fit the physician to take possession of this field.

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NATIONAL CONFEDERATION OF STATE MEDICAL EXAMINING AND LICENSING BOARDS.

Tenth Annual Meeting, Held at Atlantic City, June 4, 1900.

THE meeting was called to order by the President, Dr. J. N. McCormack of Bowling Green, Ky.

The work of public interest of this session was the discussion of the subjects of the feasibility of uniformity in medical education and of interstate reciprocity in the granting and registering of licenses.

Cooperation of Medical Profession.—Dr. Emil Amberg of Detroit brought out forcibly the idea that if all the members of the medical profession of the United States or even a majority of them should unite in demanding reciprocity it would be granted. For true reciprocity it would be necessary to demand more uniformity in medical training. This can only be accomplished by a reduction of the number of medical schools and the elimination of the unsuitable ones. Private medical schools are in Dr. Amberg's eyes always a mistake and medical education should be under the care of the Government. Far from opposing improvements in medical laws, the lay press of the country can be depended on to second them if they are but once convinced of their real utility for the general public. This was the experience in Michigan when, in the absence of any law for the regulation of medical practice, the lay press took up the battle of the regular practitioners for the protection of the people from quacks. We are just entering upon the hygienic century. America will only take her proper place in the great advance in medicine that is about to come if her practitioners really possess the merit they are supposed to have.

Reciprocity and Medical Uniformity.—Dr. Spurgeon of Indiana offered a resolution providing for a committee that would suggest ways and means for the establishment of interstate reciprocity in licensure for the practice of medicine and for uniformity in medical education.

In discussing the resolution Dr. Wm. Warren Potter of Buffalo said that the present body is the only one of the many organizations meeting at Atlantic City at this time the members of which were officially recognized by State Governments. It was important not to derogate from their official positions. The question of advising legislatures as to reciprocity laws should come last. Uniformity in medical education is at present the desideratum. If this is obtained, then reciprocity will follow naturally. Uniformity in medical education can be advanced by the Confederation of Examining Boards and that of the medical colleges working together. Conference is needed, not hasty action. The motto must be *"festina lente."*

Dr. Egan of Chicago said that it was useless to hope for uniformity in legislation. It is impossible to convince legislatures of the crying needs of their own State. A law for the regulation of medical practice comes back from the legislature so mutilated as to be unrecognizable. Under existing laws much can be done toward remedying the present situation. The Illinois Board of Health has passed a resolution to accept the licenses of other States that comply with their regulations. The Attorney-General says the Board has not gone beyond its powers in so doing. Other State boards can follow the example. The courts can be depended on to favor public utility in the interpretation of the law and reciprocity is distinctly of this character.

Dr. Harvey of Massachusetts said that it is useless to hope that any committee under the sun can influence legislatures to give up their individuality. States will not accept the standards of other States. There is often no reciprocity even in the public schools of different cities of the same State. It is a chimera to look for reciprocity. Uniformity in medical education should be the watchword.

Dr. McCormack said that in all this talk of reciprocity he was reminded of a country-inn with screens to keep out flies which really kept them in. Many States seemed willing to have reciprocity so as to get rid of their surplus medical men. Each State should keep down quackery by stringent laws. What is needed most now is a committee that will report and weed out paper colleges. Information as to the status of such colleges would be most welcome to medical examining boards and be very helpful.

The Committee on Reciprocity was appointed.

The officers of the National Confederation of State Medical Examining and Licensing Boards for the ensuing year are as follows: President, J. N. McCormack, Bowling Green, Ky.; vice-presidents, N. R. Coleman, Columbus, O., and J. W. Egan, Springfield, Mass.; secretary and treasurer, A. Walter Suiter, Herkimer, N. Y. The Executive Council remains unchanged.

AMERICAN MEDICAL EDITORS' ASSOCIATION.

Annual Meeting, Held at Atlantic City, N. J., June 4, 1900.

THE Association meeting was held during its annual banquet. The President, Dr. I. N. Love of St. Louis acted as toastmaster. The medical editors were welcomed by the Hon. Franklin P. Stoy, Mayor of Atlantic City, and by John F. Hall, Editor of the *Atlantic City Daily Union.* Among the other speakers who responded to toasts were Dr. Alonzo Garcelon of Portland, Maine, the oldest living member of the American Medical Association and one of its ex-presidents, Dr. Joseph M. Mathews of Louisville, a recent ex-president of the Association, Dr. Nicholas Senn of Chicago, Dr. J. V. Shoemaker of Philadelphia, Dr. W. C. Wile of Danbury, Ct., the *Danbury Medical News* man, Dr. Chas. H.

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Hughes of St. Louis, Dr. Philip Marvel of Atlantic City, the Chairman of the Committee of Arrangements for this meeting, Dr. J. S. Stone of St. Paul, recently elected president of the National Association of Military Surgeons, and others. The meeting was most successful. One hundred and fifty guests sat down to the banquet which was prolonged until after 12 o'clock amid the pleasant reminiscences of the older members and the witty scintillations of their younger associates.

AMERICAN MEDICAL ASSOCIATION.

Fifty-first Annual Meeting, Held at Atlantic City, N. J., June 5-8, 1900.

[Specially reported for the MEDICAL NEWS.]

GENERAL SESSION.

FIRST DAY—JUNE 5TH.

THE proceedings were opened by prayer by the Rev. Frederick J. Stanley of Atlantic City.

A delegation of medical men from Columbus, Ohio, then presented a gavel for the use of the President of the Association at this meeting. The gavel is made of the wood of a tree from the family home of President McKinley at Canton, Ohio.

An address of welcome was delivered by Acting Governor Johnson of New Jersey. He said that the Governor is literally "half-seas over" at the command of his physician. There is only one man in New Jersey above the Governor, and that is his family physician who sent him abroad. Otherwise he would be here to extend the hearty welcome of the State of New Jersey to the American Medical Association. As it is, New Jersey in her Governor's absence receives her medical guests with heartiest greeting.

The Acting Governor recalled the fact that the first medical society in this country was organized in New Jersey. It first met in 1766 and its minutes are still in the possession of the New Jersey State Medical Society. New Jersey would be found on the present occasion to fully justify her past reputation as a cordial host for the unselfish profession which in this century have done so much for humanity.

The Hon. Franklin P. Stoy, Mayor of Atlantic City, extended the freedom of the city to the medical visitors. He promised that if any of the doctors should get into trouble the Mayor of Atlantic City would be in trouble with them. Meantime he bade them welcome and again welcome.

It was announced that a loving cup would be presented to Dr. Abraham Jacobi of New York by the Pediatric Section at their banquet on Tuesday evening, also that a public reception to him would be given at the St. Charles Hotel at five o'clock on the same day.

Dr. L. Duncan Bulkley of New York in the report of the General Business Committee said that during the past four years 2400 papers have been read before the Sections of the American Medical Association. This number is evidently beyond all reason. Some method of lessening the quantity must be devised. Meantime members are requested to present only papers that afford evidence of some real advance in medicine.

The President's Address was then delivered by Dr. W. W. Keen. It will be found elsewhere in the MEDICAL NEWS of this week.

The Treasurer's report was then read. During the year $38,965 has been received, $15,593 more than five years ago. Of this there is cash on hand $13,556. There is $3000 invested in the Indianapolis Loan and $10,000 in United States Government War bonds. Total amount of funds on hand $27,368.86. The Association is increasing not only in numbers but in the sense of responsibility of their duties. While but $1500 in dues was received during the first two months of 1890, over $15,000 was received during a corresponding time this year.

Dr. George H. Simmons, Secretary of the Association, then read his annual report. The Secretary then announced that the Third Pan-American Medical Congress will meet this year at Havana, Cuba, on Dec. 26th-29th. The American Medical Association has been requested to send delegates to this meeting. The Secretary reminded the members of the Association that the Pan-American Medical Congress owes its origin to their Association and they should take an interest in it.

Applications for membership in the American Medical Association have been received from Cuba, Porto Rico, the Philippines and from sixteen members of the Honolulu Medical Society. The Secretary suggested that the By-Laws of the American Medical Association be altered so as to admit these applying physicians.

A motion was then made that one delegate and one alternate from each State and Territory in the United States be appointed to attend the third meeting of the Pan-American Medical Congress at Havana, Cuba, in December, 1900.

A motion was then made that the Treasurer's and Secretary's reports hereafter be printed before the first general meeting and that they be circulated among the members of the Association for comment.

SECOND DAY—JUNE 6TH.

After the reading of the minutes of the first day's meeting the Oration on Surgery was delivered by W. L. Rodman, M.D., of Philadelphia. (See page 903 of this week's issue of the MEDICAL NEWS.) This was followed by the Oration on State Medicine by Victor C. Vaughan, M.D., of Ann Arbor, Michigan. (See page 907.)

The Business Committee recommended that the title of the Section on State Medicine be changed

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to Section on Sanitation and Hygiene. This was approved. The committee recommended that the Committee on the Rush Monument Fund be continued. The Report of the Board of Trustees showed the receipts for the year ending December 31, 1899, including cash in treasury of about $20,000.00, were $109,115.33, the largest receipts in the history of the Association. The *Journal* expenses, plus the treasurer's expenses, amount to $93,609.40. Total cash on hand $14,355.51 and permanent investment in Government bonds and Indianapolis loan $13,812.50, or an aggregate balance on hand of $28,168.01. The average weekly number of copies of the *Journal* issued during the past year was 13,672. The trustees have decided to exclude from the advertising pages of the *Journal* all proprietary medicines advertised in the public press.

Dr. Geo. M. Gould presented the report of the Committee on Prize Essay. There were six competitors. The Committee was unanimous in awarding the prize to Dr. A. L. Benedict of Buffalo, New York. The prize is a gold medal about the size of a twenty-dollar gold piece, but twice as thick. Upon the reverse is a scroll supported by the emblem of Esculapius bearing the inscription "Awarded to A. L. Benedict, A.M., M.D., for Essay entitled 'Quantitative Tests for Proteolysis,' June, 1900." This is surrounded by raised letters, "Am. Med. Association Prize Essay." The obverse presents the usual eagle and shield—the National coat-of-arms. This is the first time that an essay has been considered worthy of the prize. The Committee recommended that hereafter the successful competitor be allowed to choose whether he will receive the medal or accept a bronze replica and the balance of the fund, $100.00, in money.

Dr. Rodman presented the report of the Committee on the Senn Medal, awarding it to Dr. F. Gregory Connell of Chicago for an essay entitled "Exstrophy of the Bladder."

The Committee on the Rush Monument Fund reported that the total of the fund at present amounts to $11,330.05. On motion the Committee was enlarged by three additional members.

THIRD DAY—JUNE 7TH.

The Oration on Medicine was delivered by John A. Witherspoon, M.D., of Nashville, Tenn. A full abstract of the oration will appear in our columns next week.

The special Committee on Revision of the Constitution and By-laws, which had been enlarged by the addition to it of the General Business Committee and the Board of Trustees, recommended that the clause permitting members by invitation be amended so that it applies only to distinguished foreigners and men of special note; that the time allotted to the orations be limited to forty minutes each and that the time-limit of discussions of papers before the Sections be five minutes for each man.

The Nominating Committee presented the following officers for the ensuing year: President, Dr. C. A. L. Reed of Ohio; first vice-president, Dr. A. W. Calhoun of Georgia; second vice-president, Col. Woodhull, U. S. A.; third vice-president, Dr. Philip Marvel of New Jersey; fourth vice-president, Dr. W. E. Quine of Illinois; treasurer, Dr. H. P. Newman of Chicago; secretary, Dr. G. H. Simmons of Chicago.

The following men were chosen to deliver the orations: Medicine, Dr. N. S. Davis, Jr., of Chicago; Surgery, Dr. John A. Wyeth of New York; State Medicine, Dr. Geo. M. Rober of Washington.

Four trustees were chosen: Drs. W. F. Porter, E. T. Ingalls, Rodman and Matthews.

St. Paul was selected as the place of meeting in 1901.

An amendment to the Constitution was passed which provides that after nineteen hundred and one, no graduate of a college course with less than three years of regular instruction in the various branches of medicine can be considered as eligible to membership in the Association.

SECTION ON PRACTICE OF MEDICINE.

FIRST DAY—JUNE 5TH.

Proposed New Section.—In his opening address Dr. Dock, Chairman of the Section, mentioned the fact that it is proposed to relieve the pressure of papers demanding presentation before the Section on Medicine by establishing a Section on Pathology. This would, however, emasculate the Section on Medicine by depriving it of the papers that had most scientific value. There is a strong feeling that for the accomplishment of really valuable work, the clinician should keep closely in touch with the pathologist. The present year's attempt to have an informal demonstration of pathological specimens promises to be most successful and instructive—a very valuable feature of the annual meeting. Arrangements should always be made, however, to supply the material from the country immediately around the place of meeting. This will save expense and the danger of the loss of valuable specimens in transit.

The Century's Clinical Work.—Life without self-examination is sure to be a failure, Socrates said; and our medical life will share this fate if we do not pause to pass it in review, to realize its failures and appreciate its tendencies. The end of the century seems an especially favorable moment to do this. In the first decade Corvisart recalled Auenbrugger's work and gave percussion a place in general medical diagnosis. Laennec in the second decade invented the stethoscope. For a time these methods did not spread. Then for a while overconfidence in them became the rule and now, as the result of confidence in other diagnostic methods, they are too often neglected. It is not so much that they are not known as it is that they are entirely omitted. In a recent case in which there was a transposition

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of all the organs, the patient said he had been examined seven times for life insurance, and had been treated in a prominent hospital for pleurisy, yet the transposition of viscera had never been called to his attention.

Bright and Henle.—In the third decade of the century Bright showed the diagnostic significance of albumin in the urine and separated Bright's disease from other affections. In the fourth decade Henle showed the significance of tube-casts. The value of these tests has often been exaggerated, but the trouble too often in our day is that they are not used at all. The difficulty in the past has been that there were too many medical schools and that too much energy had to be expended in securing students rather than in training them. Fortunately, there is every reason to hope now that this condition of affairs is about to end. The improvement in medical education in this country toward the end of the century is most marked.

Instrumental Diagnosis.—Some of the newer methods of diagnosis, involving the use of apparatus, have fallen into ill-repute because too much dependence has been placed on them. None of the instrumental methods of diagnosis are capable of replacing entirely the old clinical methods. None of them will ever make up for the diagnostic skill to be gained only by experience at the bedside. Sometimes the instrumental diagnosis is committed to incapable hands, thus giving false ideas as to its value. The microscopic or bacteriologic expert should be chosen with as much care as an operator.

Medical Abuses.—Two of these are to be noted. Irregular practitioners are taking advantage of suggestive methods of treating disease which the profession should not entirely neglect. The success of such methods should show the regular profession their duty in the matter of suggestion as a valuable therapeutic agent. The manufacturing specialists occupy too much of the field of medicine. One large remedy manufacturer employs thirty clerks who do nothing but answer letters from doctors as to the treatment of disease. They know absolutely nothing of medicine nor do they pretend to know anything. They answer the questions proposed from the trade circulars of the manufacturer. This is just as it should not be. There is money in supplying the doctor with ready-made prescriptions and the work will go on until the physicians realize that their mistake will come back on themselves. The manufacturer is but a natural manifestation under the circumstances. "They come like water and like wind they go."

Biologic Examinations.—Dr. George M. Gould of Philadelphia bewailed the lack of biologic examinations of human beings. A few measurements are made in the athletic departments of universities, some physical examinations of school-children are made, careful examinations of recruits are instituted, and some psychophysical data gathered in the laboratories of physiological psychology, but that is all that is being done for the important science of living anthropology. Dr. Gould suggests that careful examinations should be made at intervals and then compared with each other so as to note the deterioration when it begins to occur. The dental is the only branch of the medical profession which has succeeded in convincing its *clientèle* that periodical examinations should be made whether symptoms exist or not. If this is advisable for so limited a sphere as the teeth, how much more so for important organs like the kidneys, the heart, the eyes and the ears! These organs do not give symptoms at the beginning of an affection but only when it has advanced, often to a hopeless stage. How often is hopeless kidney- or heart-disease discovered at some chance examination! Mental and nervous diseases are, as a rule, discovered too late for therapeutics to be of any use. Preliminary symptoms are utterly neglected. Periodical medical examinations would remedy this evil. The data of such examinations would be precious material for a comparative study of men. This would work a revolution in anthropology.

Specialists and Generalists.—The establishment of the custom of such examinations would restore the general practitioner to his dignity and position. As it is, the specialists are encroaching so much upon the territory of the general practitioner that he has really the narrowest specialty of all. He is coming to be scarcely more than a passer-on of patients to others, and, unfortunately, ethics will not allow the specialist to divide the fee with him.

Unless he is endowed with permanent anorexia and lives in a climate where clothes and houses are not needed, the poor general practitioner will be in a sorry plight. Perhaps it is providential that our new possessions, the West Indies and Philippines, are wonderfully favored by nature. If the conviction of the necessity for avoiding disease while in health, not merely looking for cure when diseased, has gained ground, the care of the health would once more be entrusted to the family doctor and he would occupy his old place of honor.

In the discussion Dr. Stockton of Buffalo said that the data suggested by Dr. Gould would be eminently applicable to the problem of heredity. If comparative anthropometric measurements and the records of physical examinations and pathologic conditions could be filed away, we would at the end of the next one thousand years know something definite concerning the questions of heredity. As it is our advance along this line is most problematic

The Hospital Clinical Laboratory.—Dr. C. N. Camac of New York said that the hospital and ward clinical laboratories are of so much service to the clinician as to be practically indispensable. Wherever introduced they have proved their usefulness. Certain objections to them are unfounded. It is said they occupy too much room, but all that is necessary is a space six by eight feet and a window. The essentials are really a

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window and a table. It is said they are dirty, but a glass-covered table can be easily cleaned and the objection falls. Reagents that are poisons may fall into the hands of patients, but if this danger is really feared, they may be kept under lock and key. Residents, it is said, will appropriate its apparatus for their own use. This can be avoided by knowing, before appointments as residents are made, the character of the young physicians. The matter of expense is by no means as forbidding as is claimed. The original installation will cost in proportion to the quality of the microscope that must be purchased, but $200 will suffice for everything and that, too, of good quality. The maintenance is not expensive; $50 a year will be ample and $30 a year has been known to prove sufficient.

Blood-Examinations.—Dr. M. Howard Fussell of Philadelphia said that the examination of the blood gives such valuable information that it should not be neglected. He gave some examples of its value from his recent practice. In the case of a child taken with a sudden chill there was a remission and then after twenty-four hours another chill. This was repeated. The blood-examination showed that no plasmodia were present. The absence of the malarial parasite directed attention to the lungs where on the fourth day an apical pneumonia developed. In our day malaria should never be diagnosed unless the plasmodium has been found. The abuse of the diagnosis malaria for intermittent or remittent temperatures is now absolutely unjustified. For the diagnosis of the anemias blood-examination is most important. Not long ago a case of weakness and pallor, with loss of weight, in a physician led to the diagnosis of tuberculosis. The doctor himself, because of an enlarged spleen and some febrile temperature, diagnosed malaria. A blood-count showed the presence of 175,000 leucocytes. The case was one of leucemia. Recently a case diagnosed as cancer presented itself at the dispensary. Blood-examination showed that it was really a case of pernicious anemia. The use of Widal's test solves many of the problems, heretofore most knotty, which are prone to gather round the diagnosis of typhoid fever. Thousands of cases would doubtless have been saved during the late war by appropriate treatment, if the contract medical surgeons had used this important diagnostic method. Where leucocytosis exists typhoid is not present. In a recent case the patient had typhoid four years ago. The occurrence of fever led to the application of the Widal test which was positive. There were 20,000 leucocytes present, however, and the infection proved to be tuberculous. Dr. Fussell does not mention staining methods, because they require special skill and paraphernalia. Blood-counting, however, may be done very simply. The apparatus may be carried in a bag. If the blood be properly diluted when fresh and then kept in a tube closed by rubber caps, it is unnecessary to bring a microscope to the bedside. Dr. Fussell exhibited the bag in which he carried his instruments. It is about the size of the ordinary physician's "grip."

In the discussion Dr. Osler said that the ward clinical laboratories spoken of by Dr. Camac have now become a necessity. It is extremely interesting to have brought out how little is needed for their equipments. One item of the equipment that Dr. Camac did not mention is very essential —a good supply of cortical substance properly trained. As to Dr. Fussell's bag, it is a model for the general practitioner of the country. It is into the hands of a man who carries a bag like this and has the brains to use it that Dr. Osler would rather fall, if he were ill, than into the hands of many a pretentious theorist.

Etiology of Dysentery.—Dr. Simon Flexner of Philadelphia gave some details of his experiences in the Philippines when detailed by the United States Government for the study of dysentery. Two classes of cases were readily distinguished clinically—the very acute and the chronic. We are accustomed to think of all dysentery in the tropics as an entity, tropical dysentery, with which the amœba coli is associated etiologically in our minds. In the acute cases no amœbæ coli could be found. A bacillus was found very constantly, however, which resembles the bacillus coli communis not a little, but can be differentiated from it with certainty. This bacillus has also been found in Japan where a terrible epidemic of dysentery is raging. When the blood of a patient suffering from an acute dysentery is added to a culture of this bacillus, agglutination occurs. This has led to the attempt to make a serum for the disease. Animals can by the use of this serum be protected from doses of the bacilli that would ordinarily prove fatal to them. The serum has been used with reported good results on human beings in Japan. Since his return from Manila Dr. Flexner has seen a case of dysentery in which this bacillus was found. It occurred in a soldier returned from Porto Rico. At the autopsy the characteristic lesions of this form of dysentery were found. The ulcerations were superficial, not the deep erosions that occur when the disease is the amœbic form of dysentery. The bacilli had wandered into the mesenteric glands but not farther. There were no abscesses, such as occur so frequently in amœbic dysentery.

Chronic Dysentery.—A number of cases of chronic dysentery were observed at Manila, but the bacillus of acute dysentery was not found in the stools. A certain number of these began as acute dysentery and had the characteristic bacillus. Afterward they passed into the chronic form, the bacillus gradually disappearing. At first Dr. Flexner was under the impression that the rôle of the amœba in tropical dysentery had been very much overdrawn and that perhaps it did not stand in a causal relation to the disease at all. Further investigation, however, seems to show that the amœba does play an important rôle in the etiology of the chronic forms of dysentery.

Prospects of Immunity and Cure.—Dr. Flexner thinks that there is good reason to hope that the

disease can be much benefited by the serum that is prepared after the inoculation of animals with ascending doses of pure cultures.

In reply to a question of Dr. Osler, he said that it is not improbable that the epidemics of acute dysentery which occur in jails, work-houses, and asylums are due to this bacillus. Every epidemic of acute dysentery deserves to be investigated from this point of view. For thorough investigation cultures of the bacillus for comparative study are needed. Besides, the agglutinative test forms the very best diagnostic method. Dr. Flexner is ready to furnish cultures for these purposes to those who apply for them.

In reply to a question of Dr. Bridges as to the possibility of the coincidence of typhoid and dysentery, Dr. Flexner said that the two diseases may occur together. The agglutinative reactions of the two diseases are very distinct, however, and make the differential diagnosis very easy and assured.

Acute Tropical Dysentery.—Dr. Musser described a fatal case of dysentery in a soldier from Porto Rico in whom the characteristic agglutinative reaction described by Dr. Flexner occurred. He was thirty-two years of age, and had been fifteen months in Porto Rico, eight months of the time ill. He was extremely prostrated and very emaciated. There was marked pigmentation all over the body, not regular, however, but much darker in some parts. He suffered from boils, but cultures made from them were negative. He had the scaphoid abdomen of exhausted states. He passed no fresh blood and but very little mucus. Purpura was present and his gums presented all the characteristic appearances of scurvy. Only for the agglutinative reaction in his blood his condition would surely have been set down as scorbutic. There was no periodicity, no fever, but a tendency to subnormal temperature and steady progression downward. The post-mortem showed only superficial ulceration of the intestines and absolutely no multiple abscesses, although, as may be well understood, they were looked for very carefully.

In the discussion Dr. Osler said that the amœba, while it has lost its prestige as the sole cause of tropical dysentery, still retains its character as a causal factor in dysentery even here at home. In six cases of amœbic dysentery that have come under his observation during the past year, not a single one gave the agglutinative reaction with pure cultures of the bacillus described by Flexner. There exists, then, a form of dysentery distinct from the acute type of the disease.

In closing the discussion Dr. Flexner said, in answer to a question from Dr. Vaughan, that while the bacillus coli communis sometimes causes intestinal disturbance, it probably never takes on a virulence that makes it the active agent of a serious epidemic.

Serumtherapy of Pneumonia.—Dr. J. C. Wilson of Philadelphia has used a pneumococcic serum prepared by Dr. MacFarland of Philadelphia for the treatment of pneumonia. In 18 cases at the German Hospital in which it was used 4 were fatal. During the same time 20 cases were under treatment at the Pennsylvania Hospital without serum with 4 deaths. In the serum-treated cases all the other remedies usually employed were administered. Ice-bags, stimulants, *etc.*, were used as needed. Dr. Wilson thinks that the serum does good in relieving the symptoms, although it does not seem to shorten the duration of the disease, nor cause anticipation of the crisis.

Dr. A. O. J. Kelly of Philadelphia described an alcoholic case of double pneumonia in which the serum was used without effect.

Dr. Rochester of Buffalo said that large quantities of serum should be used. At first in diphtheria quantities entirely too small were employed.

Dr. MacFarland described the production of this pneumococcus serum by the inoculation of horses with ascending doses of pneumococcus cultures. It is difficult to keep the pneumococci virulent. Alternate generations of them are passed through animals for this purpose. The serum seems to protect against other micro-organisms besides the pneumococcus. The horse is very sensitive to streptococcus injections, yet in one case by mistake a horse immunized against pneumococcus was injected with 100 c.c. of virulent streptococcus culture without evil effect.

SECOND DAY—JUNE 6TH.

Pseudo Smallpox.—Dr. Happel of Tennessee described some cases of disease that have been occurring epidemically in the district in which he is health officer which have been called smallpox by the State board of Health of Tennessee but to him do not seem to be true smallpox. The differences are mainly that the constitutional symptoms of this affection are much less severe and it has practically no mortality. Then too this affection is always well on the eighth day just when the patient suffering from true and severe smallpox is beginning the fight for his life. In certain cases of this affection the eruption was of the confluent form yet no pitting resulted. In all of the cases the vesicular stage seemed to be the acme of the disease, pustulation did not occur and the cutaneous lesions disappeared by desiccation. The vesicles were always unicellular, never umbilicated; after being semi-spheroidal they became conical just before inoculation occurred. Vaccination seemed to exert no influence either on the occurrence, the course or the severity of the disease. After recovery vaccinations were successfully accomplished in a number of cases. While successful vaccination was running its course in a number of cases the vesicular disease supposed to be smallpox developed. Frequently in families where some were vaccinated others not the unvaccinated had the milder form of the disease. Many of the negroes objected to vaccination because it frequently incapacitated them for work for a week or 10 days while the disease gave discomfort only for a few

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days at most. It came on with fever that reached at times 104° F. and was accompanied by severe pains in the back, headache and pains in the bones but all of these symptoms subsided on the second or third day and did not reappear later as they do in true smallpox. While genuine variola is very contagious this disease is not. In one instance children were sent to their homes from a crowded schoolroom after the vesicular stage of the disease had developed, they returned after two weeks, while the desquamative stage was in progress, yet none of the other children developed the disease.

Dr. Happel then said that he considers that the status of the present epidemic of so-called smallpox should be thoroughly investigated. Cases should not be labeled smallpox heedlessly for the results are apt to discredit vaccination and diagnosis. Certainly that has been the effect on public opinion in Tennessee.

Variola and Varicella.—Dr. J. J. Walsh of New York said that it must be borne in mind that the Vienna school of dermatologists, perhaps the most distinguished in the world, still insist that smallpox and chicken-pox are not essentially different diseases. Professor Senator of Berlin, who formerly believed in the essential distinction of these two diseases, has on many occasions in recent years expressed the opinion that they were related to each other. Varicella is for him variola modified by generations of vaccination and better hygienic conditions. Whenever he hears of varicella in Berlin he is almost sure to hear that some cases of smallpox have occurred in the city. Dr. Happel's skepticism then may prove most valuable for medicine if it will but encourage more careful investigation of this subject of cases intermediate between smallpox and chicken-pox by those who have the opportunities for the study of many cases of this atypical disease.

Vaccination in the South.—Dr. James of Missouri said that in his State the epidemic of smallpox had been allowed to spread by the foolish persistence of doctors in the diagnosis of chicken-pox after it had become evident that the disease was genuine smallpox. The salvation of the State had been accomplished by vaccination. This very soon put an end to the progress of the epidemic. In no case did it fail to do its saving work. The story of the recent epidemic in Missouri will prove an interesting chapter in the history of vaccination.

Smallpox Threatens the Country.—Dr. Chapman of Ohio says that while the doctors are quarreling over what name to call the disease the epidemic is constantly spreading. We have twice as much smallpox in the country now as at this time last year. Neglect of rigid precautions will surely result in a spread of the epidemic all over the country. Varicella does not appear in adults and wherever even the mildest cases of this disease has occurred it has always attacked adults rather than children. The talk about uncertainty as to the disease gives people a reason for neglecting quarantine precautions and tempts them to conceal cases. Vaccination is being discredited and we are in the face of more danger from a general epidemic of smallpox than any time in 20 years.

Dr. Stewart of Philadelphia said he did not think that the cases described by Dr. Happel were true smallpox. The most careful investigation of the subject is required, however, because of the danger to the country.

Dr. McCormack said that such papers as Dr. Happel's were sure to do harm. There is danger from temporizing with smallpox now, but the deliberate introduction of doubt as to the diagnosis cannot fail to work serious mischief. He asked for a censure by the section of Dr. Happel's views.

Dr. Happel in closing the discussion said that too many health officers diagnose smallpox without proper examination of the patient. In one instance the official stayed without the house and judged through the open door that a patient had smallpox. Dr. Happel himself had seen hundreds of cases of smallpox close up. He does not think the present epidemic in Tennessee is smallpox and feels that if doubt will lead to more careful study of the cases then good for medicine will accrue.

Yellow Fever.—Dr. Wasdin of the United States Marine-Hospital Service discussed the natural history of yellow fever. The disease used to be considered endemic in our Southern States, but the proper enforcement of maritime regulations has caused it to be generally recognized that it is always an importation. In the old days yellow fever was considered to be causally connected with certain meteorological conditions. The disease occurred so commonly and with such virulence in warm, damp weather that a spell of rainy warmth was often spoken of as yellow-fever weather. The disease always decreased when it was dry and hot or in cold weather. When yellow fever occurred sometimes at the North it was often noted that it did not cease promptly on the appearance of frost, while at the South it usually does. The reason seems to have been that at the North the germ of the disease found favorable conditions for its growth in the artificial warmth within doors. In the South, on the other hand, the first frost usually comes as a surprise and finds the people unprepared for wintry weather. As a result the germ finds no shelter from the temperature which is the same within doors as without.

The Bacillus Icteroides as Cause.—A number of bacilli have been described at various times as causative of yellow fever. In 1889 Dr. Sternberg was detailed to investigate the subject and repudiated all the supposed discoveries of bacilli pathogenic for the disease. He thought that perhaps it was not caused by a bacillus but some other form of organism. In 1897 Sanarelli announced his discovery of the bacillus icteroides. At first this discovery was not well received. Dr. Sternberg found in Sanarelli's bacillus certain similarities with a bacillus described by himself

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and called for recognition purposes the bacillus *X*. Drs. Wasdin and Geddings were sent last year by the Surgeon-General of the United States Marine-Hospital Service to investigate the subject of the etiology of yellow fever anew. They found Sanarelli's bacillus icteroides in over 95 per cent. of the cases examined and consider that there now remains no doubt but that the bacillus described by Sanarelli is the cause of yellow fever.

Many denied the pathogeneity of bacillus icteroides for yellow fever, because the bacillus stands cold well while yellow fever always disappears with the first frost. Dr. Wasdin, working at the Pasteur laboratory, recently found that rabbits inoculated with bacillus icteroides died from septicemia in eight days if kept at a temperature of 77° F. and in eighteen days if kept at 60° F., and did not die if kept at the ordinary temperature of the outer air. In intensifying cultures by passing them through animals, it is very important that the animals should be kept at the higher temperature mentioned.

Mode of Entrance and Spread of Germ.—Dr. Wasdin considers that the bacillus icteroides finds its way into the system through the respiratory tract. Here it is colonized for a time and the system suffers from its toxins. Later it finds its way into the blood-stream and produces a septic condition. This is the real danger of the disease. If the tissues and blood are examined before the septic stage they will be found to be sterile. Animals are susceptible to the disease. The mouse, the dog and the rat are spontaneously susceptible, that is they catch the disease during epidemics without any special inoculation. White mice are so susceptible to the disease that they need only to be kept in the room where other animals are suffering from the effects of the bacillus icteroides and without any contact with them they contract the disease. The horse and cow are artificially susceptible, that is, they may acquire the disease by inoculation. Animals serve to spread the disease. Their respiratory secretions carry the infectious material and spread it over a neighborhood.

Demonstration of the Bacillus.—While Sanarelli first described the bacillus icteroides and gave it its name he found it in only about 55 per cent. of his cases of yellow fever. His demonstration of its specificity for the disease was most incomplete. The work of Wasdin and Geddings has really established firmly the status of the bacillus with regard to yellow fever.

In the discussion Dr. Flexner said that even the work, very creditable though it was, of Wasdin and Geddings did not entirely establish as yet the specificity of the bacillus icteroides for yellow fever. The invasion through the respiratory tract, when for so long it seemed certain that infection must take place through the gastro-intestinal tract, was also of great interest. This would have to be confirmed by other observers. As to the spread of infection through the lower animals, this is a very attractive hypothesis but nothing more. It is extremely difficult to judge of the susceptibility of animals. In the laboratory we overwhelm them with the doses we inject. It would be necessary to determine whether animals take the disease under normal conditions or not. This we cannot decide by laboratory experiments. In closing the discussion Dr. Wasdin said that certain animals at least take the disease under what are practically the normal conditions required by Dr. Flexner. Mice need only to be kept constantly in the laboratory where work is being done with the bacillus icteroides and they sooner or later contract the disease. They can scarcely be said to be overwhelmed by injections of too large amounts of culture.

Malaria Symposium.—The secretary read the paper of Dr. Jesse Lezear, U. S. A., in which present-day staining methods for the plasmodium were described. The estivo-autumnal parasite is especially difficult to recognize. It is small in size, of indefinite outline, hyaline and almost transparent. Staining makes it very easy to see it, however. Cover-glasses for staining for the malaria parasite need not necessarily be examined at once. After taking they may be kept without deterioration for a month if too much evaporation is not allowed to take place. Many forms of birds contain hematozoic parasites that form interesting side studies to the malarial organism because of the light they throw on its life-history. The crow often contains such a parasite both of whose sexually complete forms are actively motile.

Malaria and Mosquitoes.—Dr. W. S. Thayer of Baltimore read a paper on this subject, most of the material of which appeared in an abstract in the proceedings of the American Association of Physicians and Surgeons. With regard to the mosquito as the only source of malaria, he added to what was said before. By analogy with other diseases we would not expect more than one method of communication of the disease. In malarial countries people are apparently perfectly protected if they sleep beneath mosquito-netting. The mosquito always exists in malarial regions, at least so far as has been investigated. Where even the particular type of mosquito exists that conveys malaria, malaria is not necessarily present. If patients suffering from malaria come into the region, then the mosquito becomes infected and spreads the disease. Whether the mosquito can acquire the parasite from any other source than man is an interesting question that cannot be settled as yet. Probably not, however. This explains why malaria as far as is known was never acquired primarily in uninhabited regions. It also accounts for the fact which has often been noted that explorers, after escaping the dangers of malaria in the interior, are attacked by the disease when they reach the coast. Here the mosquitoes are more plentiful and they have abundant opportunities to obtain the parasites from those suffering from the disease. Reunion Island, a French possession off the African Coast, had no malaria until 1869. There were, how-

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ever, plenty of mosquitoes. In that year a party of colonists came from India, some of whom had suffered from malaria there. After this malaria became endemic on the island.

Treatment for the Limitation of Malaria.—First keep all cases of malaria under mosquito-netting. The yearly course of malaria seems to be this: Cases that occur in the spring-time are relapses from old malaria. It is by feeding on these patients that the mosquitoes acquire their parasites. If the cases could be kept from the mosquitoes at this time the spread of the disease would be prevented.

Secondly, destroy the mosquitoes if not by some direct agent, then by something that will limit their numbers. The Anopheles mosquito, the malarial bearer, lays its eggs in stagnant water. If all pools of stagnant water were removed then the pest would not breed.

Varieties of Mosquito.—L. O. Howard of the Bureau of Entomology of the Department of Agriculture described especially the ordinary form of mosquito and the malaria carrier. The easily-recognized distinction between them is their different mode of resting on a ceiling. Anopheles, the malaria carrier, poses his hind feet out almost perpendicularly to the plane on which he rests; those of Culex are almost parallel to that plane. The wings of Anopheles also contain certain markings that are not on the wings of Culex. The two mosquitoes may be rather easily distinguished at every stage of their existence. In the wriggler stage Culex pungens has a long respiratory siphon, while Anopheles has but a short one. Culex goes down in the water to feed; Anopheles feeds on the surface. Their respiratory apparatus is adapted to their respective habits in this respect. Culex larvæ can live in small pools. Anopheles prefer those which have a green scum, as they feed on algæ of which the green scum is composed. In the pupa stage the head and thorax of Culex are much larger than those of Anopheles. In the adult stage, when examined with a glass, it can be seen that the palpi of Anopheles are much shorter than those of Culex. There are three projections from the heads of mosquitoes; the middle one is the bill, the two side ones are the palpi. In Culex these three structures are all the same length; in Anopheles the two side ones are short, as if amputated. The note given off by Anopheles is four tones lower than that of Culex. It is easy to recognize them by their note alone if attention is given to it. A jar-full of each of the mosquitoes makes it possible to be sure of this.

Mosquito in Winter.—Dr. Woldert of Philadelphia described the finding of Anopheles in December and January in Washington; in Philadelphia up to the end of October; on the snow in Vermont in February, and at various times during the winter even at the North. There is no need, then, for the mosquito to migrate for long distances. It may persist throughout the year even in high northern latitudes. It has been seen on several occasions and at various places within 500 miles of the North Pole. When mosquitoes are found during the winter they are always encountered not far from standing water and in the neighborhood of an animal. Dr. Woldert has found that where the pupæ of the insects occur they may best be destroyed by the use of a solution of tobacco in kerosene oil.

Estivo-Autumnal Malaria.—Dr. Craig, U.S.A., said that all the cases of pernicious malaria that have been described are of the estivo-autumnal type. The recognition of this form of the disease was delayed, because its parasite is not easy to discover. The plasmodium estivo autumnale is only one-sixth the diameter of a red blood-corpuscle; it has hazy, indefinite outlines and its rapid movement causes it to be difficult of perception. Red blood-cells affected by the entrance of the parasite take on a greenish tinge and the corpuscles lose their regular form and may become crenated. At times there are two parasites, or exceptionally more, in a corpuscle. It produces a typical temperature-curve with very regularly recurring paroxysms unless its course is disturbed, as is only too often the case by irregular, insufficient doses of quinine. This gives rise to an irregular, intermittent temperature-curve that makes the recognition of the disease from the chart usually so very difficult.

Clinical Observation of Malaria.—Dr. Frank Jones of Memphis pleaded for more clinical observation in malaria. Of late too much theory has crept into the medical literature of the disease. Resistance to infection from malaria depends, in Dr. Jones' experience, on the conditions of life. The well-fed and cared-for escape longer and when affected do not suffer so severely from the disease as the poorer classes. Brunettes suffer oftener than blondes. The negro, however, does not suffer from chronic malaria. People are liable to put on flesh even to become obese. The negro does not suffer from malarial hemoglobinuria. This is evidently a toxemia due to chronic malaria. In this malarial manifestation quinine should not be used.

Malarial Hemoglobinuria.—Dr. Wm. Britt Burns, who has seen some eighteen cases of malarial hemoglobinuria, advises the use of quinine in the affection. For some years he treated malarial hemoglobinuria without quinine, but has reverted to its use with excellent results.

No Quinine in Hemoglobinuria.—Dr. Krauss of Memphis has treated in St. Joseph's Hospital, Memphis, fourteen cases of malarial hemoglobinuria without a death. This is a record set of statisics in the disease for this hospital in which many cases of the affection are admitted every year. In Dr. Krauss's opinion, malarial hemoglobinuria is a separate disease, or at least a symptom-complex. It is produced by causes which disturb the conditions of symbiosis that have been established between the host and the malarial parasite. For this disturbance quinine does no good. Stimulant supporting treatment is needed and gives excellent results.

(To be continued.)

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SECTION ON SURGERY AND ANATOMY.

FIRST DAY—JUNE 5TH.

Surgery of the Stomach.—After calling the meeting to order the Chairman, Dr. H. O. Walker of Detroit, Mich., opened the scientific proceedings with a paper on the above subject, saying that the surgery of the stomach had to do with either benign or malign conditions. Among the former could be named congenital and acquired stenosis of syphilitic or other origin, foreign bodies, gastroptosis, muscular insufficiency, ulcer, and hour-glass contraction. The operations usually in vogue are pyloroplasty, gastro-enterostomy, anterior or posterior, of which the latter is the better. Instead of pyloroplasty, taking reefs in the wall is valuable especially in cases of gastroptosis which is so often associated with enteroptosis also. The author has seen but two cases of hour-glass contraction of typical form, each giving evidence of old ulcers as the cause. The early diagnosis of carcinoma by means of chemical examination of the stomach-contents and carefully searching for a tumor is the most important part of the case. If at all in doubt open exploration is necessary. Pylorectomy is available when the tumor is small, freely movable, and without adhesions. When this is impossible the posterior gastro-enterostomy is indicated to prolong life; it is most rapidly done with the Murphy button or with simple suture. The high mortality of these cases is due to bad technic, diagnosis so late that general decline has begun, and finally accidents and inexperience. Thorough and repeated lavage is a very necessary preliminary step. Non-perforating ulcers are often treated successfully internally, but if perforation have occurred then operate at once. The conclusions were in general that for benign conditions gastro-enterostomy or pyloroplasty, for malignant disease gastro-enterostomy, partial or complete pylorectomy, complete gastrectomy are the best methods. Exploratory incision is always justifiable.

Oration on Surgery.—This was delivered by Dr. W. L. Rodman of Philadelphia on the subject of "Non-perforating Ulcer of the Stomach." (See page 903.)

Dr. F. B. Turck of Chicago opened the discussion and said that the operative work on the stomach had at heart the removal of the benign or malign disease and the improvement of the patient. Among the non-malignant diseases amenable to operation are: (1) Pyloric obstruction from spasm of the pyloris without tumor; often these gave the worst symptoms from the active spasm due to the hyperchlorhydria and the multiple ulcers often about the antrum pyloris. (2) Gastric myosthenia which has resisted stimulation, gavage and electricity. Neuroses may underlie it and hypertrophy of the mucous glands, with overabundant mucus and much autointoxication, are usually distinct. (3) Hypertrophy of the muscle-wall or atrophy of the glands is another common condition with severe suffering. In general, a weighing of the probable local lesion against the condition of the patient, immediate and remote, a careful examination and exact diagnosis by all possible means were essentials. The speaker had had much success with instrumental and radioscopic examination. The contraindications are bad general condition, inoperable cancer, undue local disease, organic heart, liver and renal disease. Better diagnosis and improved management before and after operation would tend to improve results.

Asphyxia in Narcosis.—It had been the intention of the speaker, Dr. C. Fenger of Chicago, to read a paper on "Anterior Transverse Gastro-Enterostomy With Splitting of the Anterior Half of the Intestinal Wound." The plan had been to avoid persistent regurgitation of bile and death. In his first three cases he had succeeded, but failed in the fourth. Hence the method had failed of its promises. Attention was called to the procedure, recently followed at Bonn, of doing a gastrostomy at the same sitting and passing a tube into the descending loop of intestine and beginning the feeding at once. Too few had been done in this way to indicate its value.

As to dyspnea during narcosis and after operation about the jaws and mouth by falling of the tongue and epiglottis over the larynx, the speaker said that pulling the hyoid bone forward with a sharp hook is better than prying open the jaw and pulling the tongue forward. This method is applicable to cases of bony ankylosis of the lower jaw, of partial and total extirpation of the tongue or flow of the mouth, and of removal of the central part of the jaw bone, depriving the tongue of its anterior attachments. His preference is for a loop of silk passed about the bone through a small incision and then fastened suitably for support. His experiments on the cadaver showed that in the horizontal position the base of the tongue and the soft palate meet; with the head extended they separate slightly; still more if the tongue is drawn forward, if the jaw be now pushed forward the larynx comes into view, especially when the tongue is strongly pulled on; with the mouth shut pulling the hyoid bone forward opens the glottis freely, and traction on the tongue at the same time opens the throat best of all. In this way probably aspiration, bronchitis and pneumonia will be lessened, because when the throat is partially closed relatively small amounts of secretion do much harm.

Treatment of Cholelithiasis.—Upon this theme Dr. W. J. Menas of Columbus, Ohio, said that early diagnosis is important to avoid the complications and sequelæ of permitting a case to run on, sepsis, ulcers, contractures, folds in the ducts and chronic inflammation. There is no one symptom except finding stones in the feces which is absolutely certain. The author has had twenty cases; ten operated on with no deaths, and one faulty diagnosis: of the others three autopsies confirmed the diagnosis and two passed stones

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and got well. The greatest number of stones he had ever removed was 230 and the largest quantity of pus was one quart. Recurrent colic, gastric disturbances, fever, rigors, nausea, vomiting, jaundice, pruritus, constipation, local tenderness over the colon and right kidney, pain in the abdomen and transferred to the shoulder, bile in the urine and local peritonitis were present in many or all of his cases. The prodromates had often been constipation, migraine, biliary urine, tinged sclera, ashy stools. Pain alone may come from inspissated mucus, cholecystitis and gall-stones. In the latter the pain is brief, high up, and occurs three hours after eating and often is followed by nausea, vomiting and jaundice. Jaundice is often absent. Tenderness goes also with inflammation, tumor and stone. A floating kidney is movable and has the colon in front of it. The preventive treatment is to make the bile watery by giving salines, mineral water, calomel, rest and good diet. After the stones appear operation is usually necessary and at an early moment to prevent the stones doing harm.

Cholecystectomy and Removal of the Mucosa of the Gall-Bladder.—Dr. W. J. Mayo of Rochester, Minn., stated that radical removal of the gall-bladder was a necessity for gunshot and bad crushing wounds, for extensive phlegmonous, gangrenous inflammation and for malignant disease. For the permanent relief of obstructions of the cystic duct after a cholecystotomy, when the rest and drainage had failed to restore the lumen of the canal, one could choose a cholecystectomy or excise the mucosa down to the stricture. The former has many well-known risks. In his hands in 7 cases the latter had given good results. The technic is to approach the bladder through a new wound, respect all the adhesions formed for the primary operation, open the bladder below its fixation to the abdominal wall and peel off the mucosa down to the stricture, cut it across and then peel off the rest to the cicatrix. Drainage soon causes shreds of mucosa left behind to disappear, and the wound may then be closed.

Early Operation for Biliary Calculi.—There is a strong resemblance between the management of cases of appendicitis and of biliary calculi, said Dr. M. H. Richardson of Boston, Mass. The stones should be removed just as soon as the diagnosis is established to avoid the probability of the complications and sequelæ, suppurative cholecystitis, ulcers, contraction of the bladder, obstruction of the bile-ducts, etc. The earlier the operation is done the better the general local conditions for the surgeon and the patient alike, as in the appendix. The onset of cholehemia in obstructed cases is always bad. The conclusions reached were: (1) Operate early if the diagnosis is definite. (2) Explore early if it is doubtful to make it definite. (3) Facetted stones in the stools, with single or repeated attacks, operate. (4) Repeated attacks with or without stones in the stools, operate. (5) Continuous, repeated or great tenderness over the gall-bladder, operate. (6) Repeated moderate attacks, operate. (7) Non-facetted stone with a single attack, do not operate. (8) In short, regard the case exactly as an appendicitis and operate before suppuration, impaction, perforation and death can occur.

SECOND DAY—JUNE 6TH.

Permanent Fecal Fistula.—One important detail of this procedure was amplified by Dr. J. A. Wyeth of New York City in case of permanent colostomy for inoperable conditions of the lower bowel itself or of the surrounding pelvic viscera which may occlude the rectum by pressure. The advantage of his suggestion lies in the fact that it may be carried out as part of any of the well-known methods of artificial anus formation. The point is simply to render the part of the intestine distal to the anus quite straight and short by traction upon it, then by traction on the proximal end create a large artificial loop whose dependency lies below the level of the opening and forms a pocket in which feces will store, as they do in the loop of the sigmoid colon. Only when this new sigmoid flexure becomes full will the discharge take place, namely, twice or thrice daily and usually in a manner to give the patient warning and avoid the unexpected flood of matter which make artificial ani so intolerable to the patient and to society. Dr. Wyeth prefers sutures to the glass-rod support. Further, he draws out eight or nine inches and by folding over and suturing the mesentery *en masse* to the bowel obtains a stiffening for the spur. Here silk running sutures are the choice. A knuckle three-quarters of an inch long is left exposed, the peritoneum is stitched all around to wound and to bowel, the skin is reinforced and after twenty-four to thirty-six hours the opening in the loop is made under cocaine.

Intestinal Exclusion.—This paper was read by Dr. John A. Evans of Chicago in behalf of Dr. J. B. Murphy of Chicago who was unable to be present. Its object was to show the present status of the Murphy button in intra-abdominal surgery. Up to April 1, 1900, there have been 1620 cases of use of the devise since eight years ago when Dr. Murphy first tried it on the human being. The statistics have special reference to the unfavorable cases and show a mortality of about 20 per cent. which with improved and early diagnosis, prompt and more skilful technic should be reduced in the future to 10 per cent. or less. Gastro-enterostomy by all known methods shows a mortality of nearly 39 per cent., with the button about 20 per cent. Entero-enterostomies without regard to the means used 60 per cent., with the button alone about 19 per cent. of all cases. There had been only eleven cases of cholecystenterostomy done before the button was introduced and 156 since. No deaths have occurred under its employment while the total rate is nearly 15 per cent. This list of 156 reports excludes 11 done by Dr. Murphy himself since 1895. The grand total of 1620 records has no

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respect whatever to the general and local condition of the patient, the knowledge, skill and experience with the button of the surgeon and goes back to 1892 when the invention was first published. The advantages of the button method, set forward by Dr. Murphy and now agreed with for the most part throughout the world, are (1) no suturing necessary; (2) great brevity of the operation; (3) edge to edge union of the same histological elements; (4) resulting cicatricial ring does not materially contract; (5) physiological processes of the intestine go on at once through the lumen of the button; (6) firmness of the union permits feeding to be begun at once; (7) adaptability to the gastro-enterostomies which are finding wider indications and more frequent performance; (8) readiness with which even the inexperienced may with care use it. The cases reported of contraction of the scar have been due to the invasion of neoplasm in the bowel adjoining. Failures have been due to faulty technic. The objections to the button are (1) that its canal may become plugged with feces; (2) that the button may be retained. No deaths due to retention are reported in literature. Eleven cases of plugging with three fatalities in the 1620 reports are known. The same device is now used with satisfaction in anastomosing the ureters with the intestines and with the bladder. Some forty modifications or parallels of the device are known, the more important of which were discussed.

Obstinate Constipation.—Upon this important difficulty Dr. J. R. Pennington of Chicago said that the portion of the intestine from the external border of the left psoas to the anus constitutes the sigmoid colon and the rectum. That which has a mesentery is the true sigmoid, that without is the true rectum. In the collapsed and cadaveric state the sigmoid occupies the left iliac fossa, whereas distended it may occupy the right. The degree of distention and the freedom and length of the mesentery govern its position. The rectum is divided into compartments by Huston's valves, varying in number but usually three and of similar shape, interesting the circumference of the intestine for half to two-thirds of its limits and directed mostly upward toward the colon. Prof. Evans of Chicago made numerous examinations, photographs of sections of these valves for Dr. Pennington and found that some contain all the coats except the serosa, others only the mucosa and submucosa and still many contained portions of either or both musculares to a varying amount. The tortuosity of the sigmoid, the irregularity and deformity of the valves and the hypertrophy of the musculares form the principal primary causes of obstipation by aiding in setting up chronic interstitial proctitis which prevents the secretion causing dry stools and stiffening the valves, converting them from a physiological intermittent obstruction to a pathological and constant one. The surgical removal of these valves by cutting was in one case attended by fatal hemorrhage in another by general peritonitis. To avoid these risks Dr. Pennington devised a clip which by pressure causes the center of the valve to necrose, leaving a deep notch and freely hanging halves of the formerly rigid continuous ridge of the valve. The clips and introducing instrument together with a proctologic table of his design were also shown. Numerous gross specimens, casts, colored plates and microphotographs made the points of the paper very lucid.

Dr. Tuttle of New York in the discussion said that he corroborated Dr. Murphy's claim that his metallic button could be indefinitely retained without damage. Dr. Wyeth's method of colostomy was good and probably realizes its aims, but he desired to emphasize its absolute restriction to the permanent artificial anus, because the carefully-constructed spur interfered with prompt reduction and necessitated opening the general peritoneal cavity, which should always be avoided in repairing artificial outlets. The speaker had often used the new method of Bailey of London and had excellent satisfaction. He prefers the glass-rod to any other form of support. In the rectum he had frequently demonstrated the existence of valves and regarded surgical treatment of them as often necessary.

Dr. Ellison of Illinois reported a case of a twenty-two-inch sigmoid with bad constipation.

Dr. Martin of Cleveland said that for six years he had treated the rectal valves as often pathologic and had examined and reported one in section in 1896. They caused hyperemia and dilatation of the sigmoid which often had to be diagnosed from simple catarrhal appendicitis. So-called annular stricture of the rectum is hypertrophy of the rectal valves; benign tubular stricture has, in addition, infiltration of the valve-base and adjoining wall with new lymphoid and connective tissue; non-malignant obstruction may arise from anatomical propinquity and overlapping of these valves. The consequences were straining at stool, dilatation and hyperemia of the sigmoid and intestinal autointoxication. Careful proctoscopy for diagnosis and valvotomy for treatment were his rule.

Repair in Intestinal Resection.—In the illustration of his points Dr. W. A. Evans of Chicago passed about slides and photomicrographs of end-to-end anastomosis, which was the true issue of his paper. There are no cases reported of secondary stricture after any of the methods of doing this operation and the danger appears to be very slight, especially when the Murphy button is employed. What contraction may occur is solely limited to the first six months. The only fibers which cause contraction of the scar are the circular ones, whereas the connective tissue fibers of the serosa, muscularis and submucosa are all longitudinal. Neither coat of the muscularis is found in the scar, hence, there usually is a depression in the mucosa to mark its site. The mucous layer in the Murphy button cases always forms a complete ring free of scar. The law is for scar-tissue fibers to arrange themselves always

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along the line of tension, hence, in the gut lengthwise and in the heart with pull in all directions they have no definite arrangement. Again, the artificial opening closes only when not in use, namely when the original path in side-to-side union is again in function. Tubes subject to distention only have cicatrices, as the esophagus and urethra, while the small intestines have very rarely any, even after typhoid and tuberculous ulcers. In the Murphy button the circular fibers are cut lengthwise and have little or no pull on the scar; the longitudinal fibers are divided transversely and do pull but do not enter the scar-tissue as muscle-cells can not enter and bridge the new cicatrices. Entire apposition of peritoneum to itself is not as good as securing fibro-peritoneal apposition, usually stronger and just as prompt. The mucosa heals best and the muscularis least, hence, after ulcers we find the latter absent and the former completely restored. In general secondary stricture after end-to-end anastomosis is only a possibility, insufficient to contraindicate the operation.

Dr. F. H. Wiggin of New York discussed and supported the statements of the paper. As a rule, he prefers Maunsell's anastomosis without the lateral extra incision to the Murphy button.

Appendicitis.—Dr. Miles S. Porter of Ft. Wayne, Ind., rehearsed the frequency in which in his own experience and in literature simple acute and recurrent appendicites, with or without abscess, are preceded by constipation of varying severity and degrees of chronicity or by recurrent or chronic catarrhal colitis, which may extend into and modify the true appendical picture. Other causes of appendicitis seemed to be childhood and adolescence and the uric acid diathesis, all associated more or less with colitis. Again possibly rapid and too eager eating might cause gastro-intestinal disturbance, then colitis, and, finally, appendicitis. As to the treatment of appendicitis, the writer pleaded for moderation in searching for the diseased organ. Incision and drainage are better in severe attacks, large abscesses, and septic, anemic and enfeebled patients. It substitutes a brief mild operation for a severe and more or less prolonged one and gives as good or better statistics in this class of patients. Recurrence according to literature takes place in 13 per cent., which is probably too high. A second operation for ablation of the organ can then be done just as safely as at the first sitting. To make all operations primary appendectomies would increase the mortality.

Appendicial Fistulæ.—Dr. J. B. Deaver of Philadelphia said these dreary sequelæ of appendicitis are not uncommon and unimportant to the surgeon and patient alike in the effects on the system and locally according to the organs involved. They always menace health and are avoided by early operation. There are two types, the internal and the external. The simple external fistulæ are practically sinuses going down to the bowel caused by foreign bodies, like gauze, too much drainage-tube, and the like. They may have the lumen of an appendix, otherwise shut off from the cecum, discharging into them a mucous secretion. The fecal external fistulæ open at once into the bowel, either appendix or intestines, large or small, and at any point. Internal fistulæ open into any hollow viscus, rectum, bladder, ureters, bronchi or pleura. The complications following such a rupture make it anything but a desirable solution of the difficulty. The causes are usually abscess formation, migration of micro-organisms, separation of the appendix, too many or too tight sutures, too long use of drain-tubes, pressure necrosis. Early radical attack on the appendix cures and prevents the fistulæ. If the regulation of diet for solid feces and locally ordinary cleanliness and rest did not cure simple cases, exploration for the offending gauze or suture with curetting of the tract is indicated. If it lead down to an old abscess-cavity the usual wide-open method for healing from the bottom should be followed. In fecal fistulæ remove the remains of the appendix, break up adhesions, close the gut or resect and anastomose. Very many fistulæ close spontaneously if left alone, hence, excepting where the small intestine high up is involved and the nutrition is suffering, leave them alone to see what Nature will do. In general the best cure is the prophylaxis of operation in all cases of appendicitis as soon as the diagnosis is made.

Dr. Senn of Chicago opened the discussion and said 80 per cent. of all cases of appendicitis get over their first attack and of these half never have a recurrence. To operate on each case would, hence, be an error. Spontaneous rupture of abscesses into the cecum had best be left alone.

Dr. Price of Philadelphia agreed in the radical immediate operation as a rule. In the bad cases he likes free incision, irrigation and drainage with only gauze through an unsutured wound, after the colon has been widely freed and brought directly beneath it to make the drainage-tract free and straight. He reported 3 per cent. mortality with this method.

Dr. Dawbarn of New York said preservation of life is best done by the immediate primary operation. Fistulæ may be prevented by passing a purse-string suture wide of the appendical stump in sound bowel. Inversion of the gangrenous part, while the suture is tightened, is the last step.

Dr. Hamilton of Columbus, Ohio, spoke of the importance of counteropening in the loin if drainage were doubtfully efficient.

Dr. Mynter of Buffalo said portal pyophlebitis was a more important sequelæ of appendicitis, because fistulæ tend to close themselves.

Dr. Keen of Philadelphia said no rule can be laid down, but that he preferred to regard each case as a law to itself as to when to operate, but no case should be allowed to go beyond two invasions.

Dr. McRae of Atlanta, Ga., had had recurrence of the inflammation in 75 per cent. of his cases of simple incision and drainage and had

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seen practically all develop hernia within three years. Hence, early operation is best. Fistulæ had been well treated by him by invasion of the intestinal lesion and suturing over it with four or five layers of sutures.

Dr. La Place of Philadelphia, Dr. Murphy of Chicago, Dr. Gray of Jersey City, Dr. Boldt of New York, and Dr. W. Easterly Ashton of Philadelphia all agreed in the necessity of primary operation at the time of diagnosis as no one can foresee the results of delay.

(To be continued.)

SECTION ON OBSTETRICS AND DISEASES OF WOMEN.

FIRST DAY—JUNE 5TH.

A Review of Obstetrics and Gynecology.—The address of the Chairman, Dr. W. E. B. Davis of Birmingham, Ala., was in the main a general review of the progress in obstetrics and gynecology during the year. He stated that obstetrics cannot be practised with absolute success except by the obstetric surgeon, the gynecologist. He strongly advocated the use of rubber gloves in obstetric work, and believed that no obstetric complication existed that could not be successfully dealt with with gloved hands. We should as a nation learn from the experience of Austria and Germany. There the teacher of obstetrics is also the teacher of gynecology. This is also true in England. More than fifty per cent. of the cases coming to the gynecologist are obstetric in origin, and when this fact is borne in mind it will be clearly recognized that the two branches should be associated in the one man. In the near future he believed that there will be fewer specialists but more learned. This he regards as an indication of progress. It is difficult to obtain the *tactus eruditus* even with much experience. How, then, can the general surgeon be able to recognize cases which are often obscure even to the most expert gynecologist? The exalted position which gynecology holds in this country is due largely to the special journals devoted to the subject and to the national associations devoted to this line of work, including the American Gynecological and Obstetrical Association, the Association of American Obstetricians and Gynecologists, and the Southern Association of Gynecologists. In the latter organization are included the leading surgeons, obstetricians and gynecologists of the South. Its Transactions have been complimented both at home and abroad, and include contributions from eminent men, such as Battey, McDowell and Hunter McGuire. Battey's operation was a great mistake, but his influence on gynecology was positive and widely felt. Still, his teaching has probably been productive of more harm than that of any other man. Through his influence the neurologists were driven to the opposite extreme and repudiated operations that were fairly and urgently indicated. Undoubtedly in many instances in which there are marked neuroses, they have developed in women so predisposed, but all cases are not of this nature. Too much has been claimed for vaginal section, yet it has a large field. Peri-uterine and parovarian abscesses should be drained by this method and then, if need be, abdominal section should be performed later. It is gratifying to note the increasing popularity of the round ligament operation. A patient should not be compelled to wear a pessary when the safe operation can be done. If need be the abdomen may be opened in these cases and the round ligaments shortened in that way.

Surgery of the gall-bladder and gall-duct has been much improved during the last few years. The methods of closing the abdominal incision have never been satisfactory. The majority of operators still employ the through-and-through method. Others use the tier sutures. The author is in the habit of uniting the aponeuroses and muscle by tubes threaded with silkwormgut secured by shot; the fat is closed around the tube, and the skin united by silk or silkwormgut.

The Value of the Angiotribe in Vaginal Celiotomy.—Dr. J. H. Carstens of Detroit read a paper on this subject. He stated that conservative surgery is now predominant and that efforts are made to preserve as much of the pelvic organs as possible. Through the work of the French surgeons vaginal surgery has come permanently forward, but now the time has come when the surgeon selects his cases for either route. The author prefers vaginal celiotomy, but has encountered one great obstacle, *viz.*, the tying of the broad ligament so that hemorrhage will be controlled. He has tried the clamp and has seen sloughing follow with prolonged convalescence. The angiotribe has greatly simplified matters. Take, for instance, the case of a young girl with an acute displacement and prolapsed and adherent ovaries. In these cases he prefers to do a vaginal celiotomy, remove the ovaries and apply the angiotribe. He made a study of this instrument last year in Europe and now employs it in abdominal and vaginal hysterectomy without ligatures. He does not endanger his patient's life in doubtful cases, however, by not using ligatures. The best cases for the angiotribe are small ovarian cysts, pus-tubes, and inflamed appendages. He believes the angiotribe will do more to lessen suffering and death than any other instrument recently devised.

Angiotripsy in Abdominal Surgery.—This was the title of a paper read by Dr. H. M. Taylor of Richmond. His experience sustains that of others. The instrument is easy to use and safe as to results. Post-operative pain and shock are less severe in character and less lasting, and convalescence sets in sooner. He has had no bad results. Only once has he failed to secure perfect hemostasis. He has used the angiotribe by the abdominal route only in ten or fifteen cases during the past year. He has not used it in septic cases, because he has not had any such cases. He applies the instrument for a period of three minutes.

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Improved Technic in Major and Minor Surgery.

—Dr. H. P. Newman of Chicago read a paper with this title. He stated that we owe to anesthesia, hemostasis and antisepsis the great improvement in modern technic. The least possible violence should be done to delicate structures to secure the best results. Bad results follow improper dilatation of the uterine os, resulting in tearing which leaves scar-tissue that will not dilate at subsequent labors. Improper curetting is also a source of much evil. He judges a gynecologist not so much by the manner in which he does a hysterectomy as by the way in which he does a curettement. He especially advises care in the performance of tracheloplasty. Fissures, fistulæ, sinus and the like, should be dissected out entirely. In his experience the best results follow this method. In vaginal hysterectomy he has used the angiotribe with good results. He was the first to introduce this instrument in this country. He believes it is even more valuable in abdominal section. The instrument should be faultless in make and well tested. It should not be used in fragile tissue, the stump should not be handled after the angiotribe is removed, nor is it necessary to cauterize the stump nor to use drainage. In softened and edematous tissue there is some danger of tearing, as with the use of the ligature. The instrument requires the same care in use as do other instruments.

Dr. Wathen of Louisville thought that trouble follows the use of too many instruments. He has not used the angiotribe, but he recognizes the fact that there may be a field for it. He believes, however, that it prolongs the operation, especially in cancerous cases.

Dr. Goffe of New York has had a little experience with the angiotribe and desired to say a good word for it. He has found that it simplifies operations *per vaginam* and is perfectly safe. He tested it in two cases of advanced carcinoma involving the broad ligament and found that even in cancerous tissue it acted just as well as in sound tissue. He recently resected a cancerous rectum through the vagina, dragging down the rectum. It was necessary to restrict the mesentery, which he did with much satisfaction. In cutting off the rectum he first pinched it with the angiotribe and then stitched the end of the rectum to the skin, and had no oozing or hemorrhage. The angiotribe has a wide range of application. He has also used it in hemorrhoids. It is easy to handle. He learned its use in one and a half or two minutes. The instrument he employs is Tuffier's.

Dr. Bovée of Washington was glad to hear such good results from the use of the instrument. He does not think that the operation is shortened by the use of the instrument, which he considers a clumsy tool. The French journals have recently reported a number of deaths from hemorrhage after its use, and yet the instrument was devised to prevent this accident.

Dr. Ashton of Philadelphia will not use the instrument, since with it it is impossible to get the same support of the broad ligament in hysterectomy which follows the use of ligatures. He does all his work by the abdominal route. He emphasized the fact that care is necessary in the technic of curettement and dilatation. If the dilatation is made too rapidly laceration will follow. It should be slowly performed, the operation requiring at least ten or fifteen minutes.

Dr. Porter of Indianapolis wished to know how to apply the angiotribe and which instrument to use. He has had a case in which fatal hemorrhage followed the use of the instrument. He would like to know how many pounds of pressure should be employed and how long the process should be continued.

Dr. Boldt of New York has used the angiotribe since it was introduced by Dr. Cleveland. It will undoubtedly control hemorrhage, but it is not in the least degree superior to ligatures. He feels more secure with the use of the latter than with the use of the angiotribe, and in his experience the operation is prolonged by the use of this instrument.

Dr. Carstens, in reply, stated that he will use any instrument which gives him good results. He does not remove healthy ovaries nor those which are but slightly prolapsed, but if these organs give pain or are much displaced, they must come out. He considers the angiotribe invaluable in hysterectomy in certain cases, but does not think it is useful in cancer of the uterus. In such cases he prefers clamps, and in other cases ligatures.

Dr. Newman stated that he performs a tracheloplasty, or plastic operation, on the cervix and not trachelorrhaphy. He does not confine himself to any one plastic operation. He does not think time is lost by the use of the angiotribe. It facilitates the operation, gives perfect hemostasis, and does away with the use of ligatures. If hemorrhage occurs immediately after the removal of the instrument, he would apply a ligature.

Myofibroma Uteri.—Dr. H. J. Boldt of New York read a paper with this title. He stated that the histogenesis of fibromyomata is still disputed. He believes that they arise from the muscularis and are pure myomata. Fibrous connective tissue is absent until the tumors reach the size of ¼ cm. A variety of the dermoid tumor—the adenomyomata—has given rise to much discussion. If these spring from the endometrium, they lie centrally in the uterine wall and show the tissue of the endometrium. The greater number of adenomyomata have their origin in the Wolffian body. Cullen described three cases and agreed with the views of von Recklinghausen as to their origin. If a fibromatous uterus be examined the endometrium will be found most dense. The muscular wall undergoes hyperplastic changes, and inflammatory changes are found in the tubes and ovaries. Various changes may take place in fibromyomata. They may disappear without treatment before the menopause and after parturition. Sarcomatous degeneration must be considered the most serious change.

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In lymphangiectatic myomata there is much danger of the walls of the lymph-vessels becoming sarcomatous. Inflammation, gangrene, and other degenerations may take place in the tumor. If a symptomatic cure can be secured in cases of these tumors the radical operation should not be done. The social standing and the age of the patient should be considered. Thyroid and mammary extracts will control some of the symptoms, but do not greatly affect the size of the growth. Electricity in the form of galvanism has a limited use in the treatment of fibromyomata.

Arhythmia Cordia Complicating Fibromata Uteri.—Dr. J. W. Bovée of Washington read a paper on this subject. He stated that the complications of fibromyomata are becoming constantly more numerous. A condition of arteriofibrosis is considered by many to be present in their growth, but he has not noted its presence in any case. Organic cardiac disease is often associated, but cardiac symptoms are rarely present. He noted in the case of a colored woman with a large fibroid an irregularity of the heart-action and pulse. The heart was otherwise apparently normal. Cardiac tonics and rest in bed gave no result. Under the influence of ether the action of the heart became regular, but the irregularity returned upon recovery from anesthesia. Different forms of arhythmia are reported and these may be associated in the same patient. Their presence does not contraindicate operation, but the patient should be clearly watched and the ether administered with care.

SECOND DAY—JUNE 6TH.

Parturition as Factor in Gynecic Practice.—Dr. J. M. Duff of Pittsburgh read this paper. He said that parturition is the principal factor in the production of the morbidity encountered in gynecologic practice. He considered that over 50 per cent. of all gynecologic cases can be charged to parturition. This includes the large number of cases resulting from abortion. Aside from inversion of the uterus and fistulæ due to pressure, nearly all of the cases are primary, resulting from laceration, sepsis, or both combined. An important question is, What are the best means of avoiding these primary cases? Modern obstetric and surgical aseptic practice has done much to correct the trouble. He believes that more than 50 per cent. of all gynecologic cases would be eliminated were thorough asepsis adopted and at the same time the obstetric technic improved. In nearly every case of postpartum sepsis there has been some defect in the technic, a defect of omission or of commission. Occasionally the nurse, the friends of the patient, or the patient herself, will be at fault. The laity is largely of the opinion, and erroneously, that lacerations of the birth-canal are always the result of carelessness on the part of the obstetric attendant. This belief is fostered by certain practitioners who claim that they never have a tear in their practice and have never seen one. It is no disgrace for lacerations to occur, although complete laceration of the perineum is rare in the hands of an accomplished obstetrician. A slight laceration in primiparæ is the rule rather than the exception. Such tears should always be reported to the patient and an attempt made at repair. This operation will not always succeed primarily, but the effort should be made. A laceration of the cervix should also be repaired at the earliest possible moment after labor. If these cervical tears are not repaired morbidity will result. The day of antiseptic midwifery is past. Its principles are not only harmful, but absolutely dangerous. The true antisepsis consists in a normal condition of the excretions and secretions of the body and true asepsis consists in maintaining a normal condition of these functions. Antiseptic douching of the vagina is both harmful and dangerous. If the vagina must be cleansed it should be scrubbed, not douched. The vulva is the normal habitat of germs and it should always be thoroughly cleansed. Care should be taken to remove the placental tissue in full in every case. This precaution should include all placentæ succenturiatæ and plancentæ spuriæ. These extra placentæ are much more common, he believes, than is generally supposed. The routine practice of administering ergot after labor is pernicious and frequently results in the development of gynecologic troubles.

Dr. M. Price of Philadelphia wished to endorse heartily the method of antiseptic treatment as advocated by Dr. Duff. In nine cases out of ten puerperal sepsis results from the useless adoption of chemical antisepsis. Intra-uterine irrigation and the use of the curette after labor are often productive of fever. The finger is the safest guide. The mortality of women to-day is greater than at any time in the thirty-two years of his medical experience.

Dr. Dunning of Indianapolis thought that Dr. Price had stated his case a little too forcibly. He had, however, seen some of the pernicious results of intra-uterine douching unnecessarily adopted. Displacements of the uterus due to subinvolution is a common condition. This subinvolution can be largely prevented by a restoration of a lacerated cervix at the proper time. An examination of the patient should be made at the expiration of six weeks and if the laceration be found it should be repaired at once.

Dr. Joseph Price of Philadelphia said that the mortality of obstetrics at present is larger than formerly, due to a mixture of gynecology and obstetrics. With Parvin there died the last obstetrician in America. The present obstetricians are largely gynecologists. What is needed today are enthusiastic obstetricians. The syringe as found in the household, and which is even known as the "household" syringe, to be used by all the members of the family, is a great source of infection.

Dr. Miller of Syracuse said that mixed infections and most cases of pure streptococcic infection will die as a rule, while infections from the

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bacillus coli communis and the saprophytes will generally be recovered from. As to the best treatment of these cases he would endorse serum-therapy.

Dr. Tuttle of Massachusetts would especially urge the careful preparation of the patient before delivery, including the use of the antepartum douche. This preparation should be carried out just as carefully as for an abdominal section or a vaginal hysterectomy. Secondly, a careful investigation of the parts should be made immediately at the close of labor to discover lesions of the birth-canal and retained products.

Obstetrical Advances of the Last Half-Century.—Dr. A. H. Halberstadt of Pottsville, Pa., stated that he was within a few months of completing his fiftieth year in medicine. During this time gynecology has made the advances and obstetrics, with but few exceptions, has been at a standstill. The Transactions of the Obstetrical Societies are now almost wholly gynecologic. Before and during the time of Hodge and Meigs the Chair of Obstetrics was the leading one, due to the personalities of the men who filled it. The two most remarkable events of the half-century are the introduction of anesthesia and asepsis. To these may possibly be added symphysiotomy. Anesthesia has not been generally adopted on account of the fear of post-partum hemorrhage. He stated that anesthetics cannot possibly do any harm in childbirth and cannot fail to do good. The condition of the heart and lungs should contraindicate the administration of ether.

Pelvic Disease and Nervous Affections.—The symposium on the relation of pelvic and intra-abdominal diseases to nervous diseases was opened by a paper read by Dr. H. O. Marcy of Boston entitled "Causal Relation that Intra-Abdominal Diseases Bear to Nervous Disturbances Recognized by Gynecologists, but Ignored by Neurologists." He stated that genius, if developed too far, may become eccentricity and ultimately mental derangement. The wise gynecologist should be a physician, surgeon, and neurologist as well. For many years he has advocated the study of the pelvic organs in the insane. He enlarged on the importance of the physiologic function of the reflex action of the nervous centers in health. The normal relationship includes afferent fibers, nerve-centers, and efferent fibers. The deep reflexes are of but limited value. There are certain groups of symptoms that are indicative of local lesions. These he considered in relation to their bearing on the reproductive organs of woman in health and in disease. A careful knowledge of the pathologic reflexes is of the first importance in the proper differentiation of organic lesion in the pelvic structures.

Menstrual Autotoxic Neuroses.—Dr. Arthur Johnstone of Cincinnati presented this paper. Every healthy child-bearing woman has a superabundance of nourishing material in her blood which must be disposed of in some way. This material is given to the child *in utero* and after birth is also received by the child during the process of lactation. When menstruation returns the excess is disposed of in the menstrual flow. A superabundance of nourishment in the blood, not to mention an additional quantity in the intestinal tract, is a very dangerous condition for both man and beast. If the fetus does not consume the excess the mother must get rid of it. The first symptom of this dangerous condition is kidney breakdown. If the eliminating organs are acting well the material will be effectually handled. There are individuals, however, whose emunctory organs are deficient, and these are the patients who develop nervous troubles and eclampsia. In young girls with faulty menstruation the symptoms are due to the failure of elimination of the excess of nutritious substances in the system. This is true of all nervous symptoms shown by gynecologic patients.

Traumatic Malformations and Insanity.—Dr. George H. Noble of Atlanta, Ga., said that neurologists have much more opportunity to see pelvic cases in the insane than have the gynecologists. In reply to the question indicated by the title of the paper which he sent to various neurologists throughout the country, some said directly "No." Others claim that only indirectly does traumatism react upon the mind, and others still that the action is direct and removal of the cause results in a cure of the mental and nervous symptoms. Gynecologists do not operate for the insanity, but to relieve the bodily sufferings. Accidents from childbirth, sepsis, adhesions and masturbation are some of the local traumatisms associated with the mental and nervous condition. The general obstetrician and practitioner should make a search for these local conditions. He has never personally seen mental defect associated with any form of double uterus, although authorities speak of this complication. Price says heredity is rare as a cause. Others say it is a common factor in the production of the mental and nervous diseases. The probability is that a bad family history is common in this condition. Aside from personal observation the author's paper was based on many replies received from alienists and gynecologists of the United States relative to the subject. He concluded that traumatisms and malformations of the female genital apparatus are indirect or exciting causes of insanity. Many operations have been done with satisfaction and uniformly good results. No special form of insanity follows the above condition. Some institutions make a practice of examining the women for these local causes and are giving much attention to the gynecologic side of the question.

Dr. H. A. Tomlinson of St. Peter, Minn., spoke of a third element in the equation between pelvic disease and disturbance in the nervous system in women. He tried to show on general principles and by statistics that the essential element in the association of disturbances of the nervous system in women with pelvic disease, abdominal operations, and the like, is an unstable or defective nervous system in the woman. This may be de-

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fined as the nervous potentiality of the woman. The fact that most do not become insane or develop any of the chronic neuroses shows that the disease or operation itself is not the direct cause of the nervous disturbance. He cited cases and presented other evidence to show that those women who develop the different neuroses in association with pelvic disease and after operation have a definite history of unstable nervous equilibrium or actual defect in development. The proof of this is furnished by the life-history of the female, the natural history of maternity, the influence of civilization and environment in modifying the process of generation in women and the effect of these changes on an unstable and hypersensitive nervous system. He reported five cases recently admitted to the hospital of women who had been operated upon and a part or all of the generative organs removed. None were improved as far as the mental symptoms were concerned. In primary degenerates, *i.e.*, those who become insane during the period of adolescence, the generative organs show all of the changes of senility. Puberty is delayed in these cases, the advent occurring at about seventeen years of age. Menstrual troubles and pelvic disease are often associated with neuroses, but bear no causal relation to the mental condition.

(To be continued.)

SECTION ON DISEASES OF CHILDREN.

FIRST DAY—JUNE 5TH.

Serum Treatment of Diphtheria.—The Address of the Chairman, Dr. Edwin Rosenthal of Philadelphia was devoted to a consideration of this subject. He stated that the position held by antitoxin in the treatment of this disease is due to the pediatrist. During the past year he addressed more than 4000 communications to physicians asking their views on antitoxin. The replies show a practical unanimity regarding the value of this agent. Statistics from the health boards and hospitals in 157 cities give a mortality of 38 per cent. without antitoxin, and 14 per cent. when it was used. A comparison of the antitoxins manufactured by Parke, Davis & Co., Mulford, and various other reliable firms, showed that all standard makes are good. The laboratories and methods are open to inspection and the ethical standards of the firms are high. The admission of diphtheria antitoxin to the pharmacopœia should be supported by all. The suggestion was made that the next executive committee investigate typhoid fever.

The session was devoted to papers upon feeble-minded children and nervous diseases.

Etiology of Idiocy and Imbecility.—Dr. Martin W. Barr of Elwyn, Pa., gave the results of a fifteen years' study of these conditions. The causes were grouped under heredity, malnutrition, and accident. Statistics were given from his own studies of 3040 cases and from other writers, showing the effects of heredity. In his own series 13 per cent. had a family history of imbecility and 5 per cent. of insanity. He fails to find consanguineous marriages a cause of imbecility, unless there is a neurotic tendency of some sort in the families of the parties who marry. There is a danger in such relatives marrying. Only 1 per cent. of his cases came from consanguineous marriages and he regards such union with but little apprehension when there is no family taint. The law should not lop off the branches of the tree by forbidding these marriages, but should begin at the root by forbidding the marriage of persons having a neurotic taint. Figures showing the relation of various neuroses and malnutrition following disease as etiological factors were given. There was a history of phthisis in 9 per cent. of his cases and of intemperance in 3 per cent. Under the head of accidents instrumental delivery seemed to bear a causative relation in 1 per cent.

Care of Higher Grades of the Feeble-Minded.—Dr. A. W. Wilmarth of Chippewa Falls, Wis., classes as of higher grade those cases in which the faculties which enable one to carry on the ordinary social duties of life are defective or wanting. Moral imbeciles also belong to this class. The distinction from a backward child is made by the development of the powers reaching a point where progress is stopped instead of only being slow. Treatment is best carried out in an institution where there is rivalry and the humoring of the family is not present to dull the activity of the child.

In the discussion Dr. Leszynsky said that the treatment was pedagogical and must be carried out by an institution or by persons at the home. Under proper conditions such individuals do better at home.

Dr. J. Madison Taylor said that he formerly believed the home treatment to be the best, but since studying the results of institutions he had changed his opinion. Such cases do better with others of the same degree along side of them as a stimulus. Great wealth might in a few cases give good results in the home, but for average cases institution training gives much better satisfaction.

Study of the Circulation in the Feeble-Minded.—Dr. J. Madison Taylor read for himself and Dr. F. S. Pearce of Philadelphia the results of a study made on 935 children in the Pennsylvania School for Feeble-Minded, the lowest forms of idiots being excluded and only those taken in which there was a suspicion of circulatory disturbance. Of this number 72 were found to have definite lesions of the heart or vessels, 40 males and 32 females. In the majority of cases the vasomotor system was most at fault. As treatment of cardiac and circulatory defects causes an improvement in the condition of such patients, the recognition of the condition in early life is important.

In discussing this question Dr. Leszynsky stated that he did not consider that Dr. Taylor had proved his point. The circulatory disturbance is more likely a result than the cause.

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Infantile Cerebral Palsies.—Dr. A. C. Cotton of Chicago classes under this head all conditions of impaired function due to a cerebral disturbance, even if there is no motor paralysis present, as in epilepsy, etc. A report of 25 cases was made. Of these 18 were females. The time of onset was before or at birth in 17 cases. Of 11 diplegic cases, 7 were idiots; of 8 hemiplegics only 2 were idiots. In only 2 cases were there athetoid movements and both of these were diplegics. In one diplegic there was no mental involvement, although other typical symptoms were present.

In discussion Dr. Leszynsky stated that every child suffering from epilepsy should be examined for the possible existence of cerebral palsy. A certain number of cases recover partially and attention is not called to the condition until epilepsy develops, when the parents bring the child for treatment. The presence or absence of cerebral palsy has a decided bearing on prognosis in such cases.

Dr. Griffith emphasizes this point and said that physicians often made mistakes by not attributing epilepsy, etc., to cerebral palsy. He called attention to the rarity of tremor as a post-hemiplegic symptom.

Dr. Cotton stated that the percentage of cases of improvement at home is very low and he is anxious to hear from institutions. One postnatal case, occurring at six months of age, has been watched by him, the man now being twenty-four years of age. He can use carpenter's tools and play in a band, thus being self-supporting.

The following papers were read by title: "The Importance of the Education of the Sense of Touch in Feeble-Minded Children and its Connection with Manual and Industrial Training," Dr. Fletcher Beach, London, England; "Physiologic Training of Feeble-Minded," Dr. S. J. Fort, Ellicott City, Md.

(To be continued.)

REVIEWS.

A Practical Treatise on Sexual Disorders of the Male and Female. By ROBERT W. TAYLOR, M.D. Second Edition. 8vo., 438 pages. Illustrated. Lea Brothers & Co., New York and Philadelphia.

IT must be highly gratifying to Dr. Taylor that a second edition of his valuable work on sexual disorders has been so soon demanded by the profession, who, realizing the great value of his writings, will read with pleasure and much profit the present edition, which treats of these affections, both in the male and female in a masterly, scientific, and at the same time eminently practical manner. The various methods of treatment are given in detail, and will be found of great practical value to the general practitioner and specialist as well.

The chapters on the anatomy and physiology of the sexual apparatus have been thoroughly revised and enlarged, as have also those devoted to sterility and sexual disorders in the female, which conditions are most satisfactorily dealt with in every respect, thus adding greatly to the value of the present work, in which the author deals with these peculiar affections in his usual clear, concise and practical manner, the result of careful and extended pathological research, together with an extensive and closely observed clinical experience.

The relation between chronic urethral inflammations and affections of the prostate gland and seminal vesicles to sexual impairment and debility is most clearly and convincingly brought out, and in these chapters much that is new, original, and interesting will be found.

After a careful reading we take great pleasure in recommending this standard and authoritative treatise to the student and practitioner, both of whom will be fully repaid by a perusal of its pages.

The book is profusely illustrated with new and well-executed colored plates and also half tones, the vast majority of which are from the author's personal cases.

The publishers, Messrs. Lea Brothers & Co., are to be congratulated on the general make-up and appearance of the book, which is all that could be desired.

Nervous and Mental Diseases. By CHARLES S. POTTS, M.D., Instructor in Nervous Diseases, University of Pennsylvania; Assistant Neurologist to the University Hospital, Philadelphia. Lea's Series of Pocket Text-Books. Lea Brothers & Co., Philadelphia and New York.

WHATEVER in the way of derogation or of praise that may be said of small manuals, the fact remains that for beginning students and for a large number of general practising doctors, such manuals, if conscientiously and ably prepared, are of very great service.

The exact proportions to be devoted to the different aspects of the subject are difficult to determine, yet in a book of this kind we believe that the author has been wise in devoting himself more particularly to general symptomatology and methods of examination as well as in the giving of a large amount of space to treatment. It can hardly be said that the chapters on mental disease are adequate. The chapter on hysteria is especially full, but in a country where this disease is comparatively rare, especially in its severer grades, the amount of space given seems out of proportion. Apart from such consideration, however, the work is an excellent one. It is convenient in size, its information is accurate and well digested and the mechanical execution commendable.

The work can be recommended especially to the beginning student who should not, however, rest content, for his knowledge of nervous diseases, on such an elementary manual.

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ORIGINAL ARTICLES.

THE PROPHYLAXIS AND CONTROL OF LEPROSY IN THIS COUNTRY.[1]

BY PRINCE A. MORROW, M.D.,
OF NEW YORK.

IN this paper, which has been prepared at the request and, I may even add, the urgent solicitation of the President of this Association, I have not the pretention to suppose that I have solved the difficult problem of the control of leprosy in this country. My object has been simply to offer a few suggestions, based upon my observation and study of the disease, with the view of eliciting the opinions of the members upon this important subject.

Unfortunately, the leprosy question in this country has been chiefly agitated by alarmists through the columns of the daily press. It seems to me desirable from every point of view that the discussion and decision of this purely sanitary question should be transferred from the arena of sensational journalism to the higher tribunal of scientific medicine.

It is worthy of record that this Association was the first among the scientific bodies of this country to call attention to the prevalence of leprosy in the United States and it has been the most active and persistent in urging upon our legislative and sanitary authorities the importance of taking suitable measures to prevent its further development and spread. Our distinguished confrère, Dr. James C. White, was the pioneer in this movement. As early as 1878—a period when leprosy was scarcely recognized in the nosography of this country—he presented statistics showing that the disease prevailed to an extent hitherto unsuspected. In 1882 he again presented a paper upon this subject and urged the necessity of repressive measures to check the evil. It was, I believe, at his suggestion and through his influence that the subject of the "Distribution and Control of Leprosy in North America" was made the topic for discussion before the general session of this Congress at its meeting in 1894.

As a result of this and other efforts to secure legislative action an "Act for the Investigation of Leprosy" was passed by the Senate and House of Representatives April 22, 1898. Under its provisions the Supervising Surgeon-General of the Marine-Hospital Service was empowered to appoint a commission of medical officers of the Marine-Hospital Service to investigate the origin and prevalence of leprosy in the United States and to report upon what legislation is necessary for the prevention of the spread of the disease. I have been unable to secure any information as to the practical outcome of the work of this Commission.

I need not remind this Association that the course of events within the last few years has given a new and added significance to the question of the control of leprosy in this country. At the meeting in 1894, a careful and competent observer, Dr. Hyde, in his report upon the distribution of leprosy in North America estimated that there was within our borders a leper population of from 90 to 150. There can be no doubt that Dr. Hyde's estimate was far too conservative as it has since transpired that there were in Louisiana alone more lepers than were embraced in his statistics for the entire country.

In the evolution of this country from a continental to a world power, its leper population has been largely augmented through territorial acquisitions. By the annexation of the Hawaiian Islands the United States has incorporated a native population tainted with leprosy. In absorbing Porto Rico and establishing a protectorate over Cuba our people have been brought into most intimate commercial and social relations with the leprous inhabitants of these islands. In appropriating the Philippines we have become possessed of one of the most important centers of leprosy in the Orient, and which, from its proximity to the "cradle of leprosy" in Kwan Tung and the leprosy-infected countries of Japan, must be continually exposed to fresh increments of infected material through immigration of Chinese and Japanese coolies.

That our territorial expansion has created conditions favorable to the increase of leprosy in this country cannot be gainsayed. The danger will come from the exposure of soldiers and sailors who form the army of occupation, of civilians who fill administrative posts in the government of these colonies, and others who are attracted by considerations of trade and commerce and who are thus brought into intimate contact with their leprous population. Whatever doubt there may be of the contagious activity of leprosy when transplanted to this country there can be no question of its ultra-contagiousness in these tropical islands.

It is worthy of note that the leper population of Southern and Central Europe within the present century has been almost entirely recruited from the ranks of soldiers and sailors or official representatives of the administrative departments who have sojourned for a longer or shorter period in leprous-infected colonies. Of the 100 cases of leprosy observed in Great Britain within

[1] Read before the American Dermatological Association at its annual meeting, held at Washington, D. C., May 1, 1900.

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the past ten years, all, with possibly two exceptions, contracted the disease in the leper colonies of England. M. Olivade states that of the 1500 cases of leprosy in Spain, 500 of which had come under his personal observation, the great majority were soldiers or monks who contracted the disease in the Philippines, the Canaries or Cuba. The same authority traces the origin of the two most severe epidemic outbreaks of leprosy in Southern Europe within the past three centuries —*viz.*, the epidemics in the Provinces of Alicante and Parcent to the importation of the disease from the Philippines.

With these facts before us it may be pertinent to inquire how many of our soldiers who form the army of occupation in Cuba, Porto Rico and the Philippines will bring back leprosy as a souvenir of their sojourn in these islands.

There is another possible danger of the increase of leprosy growing out of the changed foreign relations of this country which may be briefly considered. The "open door" into China which has been proclaimed as one of the most conspicuous triumphs of American diplomacy has also its sinister aspect. The teeming population of China has always furnished a favorable culture field for many infectious diseases. The "Flowery Kingdom" has been the breeding-place and nursery of pestilential diseases, cholera, plague, as well as leprosy, from time immemorial. The "open door" will not only afford access to the rich products and trade advantages of the Celestial Empire but will also furnish an outlet to the pestilential diseases which have been domiciled there for centuries, but which have been comparatively isolated by the traditional exclusiveness of the people. There can be no commerce or free intercourse between nations or races without an interchange of infectious diseases as well as commercial commodities.

Further, it may be said, that the locomotive forces which modern progress has placed at the command of civilization—the rapid transit by sea and land—furnishing swift and frequent communication and facilitating free intercourse and intermingling of the people of different countries, may also serve as a means for the transportation and dissemination of infectious diseases. So that in the future it is probable that most infectious diseases will lose their endemic character and become pandemic. Witness for example the plague which, imported from its breeding-place in China into India four years ago, has not only ravaged that country but has spread over a large portion of the globe and threatens to become world-wide in its extension.

The only question is whether these Oriental diseases will survive the contact of civilization, whether the better stamina of our people, the improved personal and public hygiene and our modern methods of sanitary supervision will be sufficient to cope with and exterminate them.

Before dismissing this part of the subject it may be said that the Chinese have been the most active disseminators of leprosy in modern times. These pig-tailed Argonauts of the Orient in their world-wide migrations in quest of the Golden Dollar have invaded many lands and almost every land they have touched they have tainted with leprosy. Cantlie in his prize essay on leprosy (New Sydenham Society, 1897) brings forward abundant historical evidence to prove that the spread of leprosy in the Malay Peninsula, the Dutch, Spanish and Portuguese East Indies and in Oceanica, as well as in the Islands of Fiji, New Caledonia and Hawaii and the Western coast of America, may be traced to Chinese coolie immigrants. In this vast area he states that the spread of leprosy has been in all cases coincident and concurrent with the immigration and residence of the coolies.

The Chinese have been not only the chief contaminators but the chief victims. In all these countries it may be said that with the exception of New Caledonia and Hawaii, where the racial peculiarities and social customs of the natives have favored the propagation of the disease, the Chinese have formed the bulk of the lepers, in New York as in San Francisco, it is the Chinaman who is the dominant leper.

While it is not the object of this paper to consider the control of leprosy in our new colonial possessions, I have deemed it important to point out what may be termed *the pathological side* of our policy of expansion, because, in my opinion, no wise or comprehensive plan of prophylaxis for this country can be framed which does not take into account the increased influx of infective material from these new sources of supply.

The leprosy of the United States, with the exception of Louisiana, is largely a foreign product, ingrafted by immigration, and it is impossible to destroy the growth *within* our borders if it is continually nourished by transplantation from *without*.

The most obvious indication, then, is to suppress the sources of supply, as far as possible, by the exclusion of all leprous immigrants. I say as far as possible, because quarantine against leprosy, although a most excellent measure, is and must be, from the very nature of the disease, incomplete in its operation. No system of quarantine has ever been devised that will effectually prevent the importation of a disease so prolonged in its incubation and so little manifest on ordinary inspection as leprosy. The advanced cases may be detected and turned back, but the incipient cases will slip through, despite the most rigid quarantine *cordon* that can be established.

Quarantine protection could doubtless be made more effective by international cooperation between this and other governments in which leprosy prevails, and by the examination of immigrants at the port of embarkation. All immigrants coming from leprous families and from leprous-infected districts, even if they show no signs of the disease, should be registered and kept under surveillance for several years after their arrival in order to watch for developments. The good effect of such a system is shown in the

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operation of the international regulations which apply to the importation of Japanese coolies into Hawaii. A thorough examination is made before the laborers leave their own country and also upon their arrival in Hawaii. Among the 26,000 Japanese laborers who have been brought to Hawaii under the operations of these laws only six cases of leprosy have developed.

A careful examination should be made of all returning soldiers or civilians who have sojourned for a long time in our own or foreign leper colonies. While citizens of our own country cannot be denied the right of entrance and asylum, the identification and proper disposition of all such cases are essential to the control of the disease. Not only a seaboard but an equally rigid land quarantine should be established upon our Mexican and Canadian borders.

Another measure of increased efficiency would be the employment of skilled experts as quarantine inspectors. It does not appear that any special knowledge or training in the diagnosis of skin diseases has ever been considered a necessary qualification in the appointment of medical inspectors, although the large proportion of quarantinable diseases are distinguished by their skin lesions.

We come now to a consideration of the control of leprosy *within* the United States. What is the situation? Some of the practical aspects of the leprosy problem, relating to the extent of the evil, the attitude of the public and our health authorities, and the indications which point to its development and spread, may be briefly referred to.

There are numerous known foci of leprosy in various parts of the United States with an indeterminate number of cases scattered throughout the country. The actual number of cases of leprosy in any country is an unknown and unknowable quantity. From the very nature of the disease statistics cannot be computed by the methods ordinarily employed for the detection and registration of disease. Leprosy is a disease which readily lends itself to concealment and, unfortunately, the strongest motive for concealment is furnished by the hostile attitude of society toward the leper, due largely to an exaggerated conception of the acute, infectious nature of the disease. Science teaches that a leper is quite as innocuous from the point of view of contagion as the consumptive in the ordinary relations of life, yet the leper is shunned and avoided as the bearer of a deadly contagion, while the presence of the consumptive creates no concern. The presence of a leper in any assemblage or public conveyance would, if known, cause the wildest consternation and alarm. An incident occurring in St. Louis a few years ago may be mentioned as an illustration. "On the occasion of a leper being brought into Court upon *habeas corpus* proceedings there was a stampede from the court-room, even the judicial ermine sharing in the flight."

At the present day, in some parts of this country, the leper is as much of a pariah and an outcast as he was when stoned and driven forth from the walls of the city under the Levitical law. The badge of leprosy is to-day as shameful and degrading as it was in the medieval ages; although the leper is no longer compelled to wear upon his breast the red letter L. to distinguish him, he is none the less clothed in the scarlet cloak of infamy by public opinion. It is not surprising, then, that a disease which attaints not only the bearer, but also his family, rendering them outcasts from society, should be sedulously concealed.[1]

While there is no doubt that a public sentiment which leads to the avoidance of close contact or companionship with a leper, thus favoring his comparative isolation, is to a certain degree wholesome and protective, yet carried to such an exaggerated extent it is as senseless as it is to be deplored.

As regards the attitude of our health authorities it may be said that no organized or systematic effort has been made for the control of leprosy in the United States. Louisiana is the only State in the Union which has provided a special asylum or lazaretto for the reception and care of its leper population. Although the provisions of the act creating this institution make it obligatory that all persons in the State afflicted with the disease should be isolated therein, the policy of segregation has proven a comparative failure.

In a recent communication to me Dr. Dyer states: "The legislation as it stands is quite sufficient for all purposes, but it fails of efficacy for several reasons, *viz.:* (1) The Board is made up largely of laymen who have no conception of hospital necessities and who have fulfilled the law creating them only in so far as they have provided an asylum for such lepers as may choose or as may be persuaded to take refuge there. (2) The physicians of Louisiana are blind to the urgency of reporting cases of this disease or they, like myself, are unwilling to send any patient to the home to die without treatment of a disease which is amenable to medical care if not cure. It is my opinion that the question of leprosy control in Louisiana is as yet unsolved. During the existence of the leper-house there have been to my knowledge over 150 lepers at large while only about 30 have been in the home."

Although the health authorities of other States are empowered to isolate leprosy under the provisions of the general law applying to diseases dangerous to the public health, yet the exercise of this authority has been for the most part feeble and spasmodic. In some States repressive meas-

[1] In the presence of leprosy humanity ceases to be humane; even the mantle of Christian charity is not broad enough to cover this disease. In a little town in Ohio two children of a deceased Union soldier who had served in the Civil War were found to be affected with a rare form of disease, which experts who were consulted pronounced to be syringomyelia—the other six children in the family were unaffected. The dread word, *leprosy*, whispered abroad, was sufficient to transform the little circle of friends and neighbors into a hostile community. An impassable barrier was placed around this family by public sentiment. The children were denied school and church privileges and cut off from all communication with their fellows. The attending physician writes me, "they are as completely isolated as if shut up in a prison."

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ures have been limited to the impounding in the nearest pest-house of any vagrant leper who might wander into a dispensary or be apprehended in the streets; in others a do-nothing policy has prevailed.

The Health Board of California has the power to confine in the pest-house of San Francisco all lepers found within the limits of the State; and the enforcement of the law, especially in the case of Chinese immigrants, has been more vigorous than in most other States.

Among the Eastern States Pennsylvania has perhaps waged the most relentless warfare against the leper; all known lepers coming under the jurisdiction of its Health Board have been imprisoned or deported and physicians fined for not reporting cases.[1]

The action of the municipal and State authorities of New York toward leprosy has been inconsistent and to a certain degree capricious. About ten years ago the Health Board of New York City began to take official cognizance of leprosy. All lepers coming within its jurisdiction were isolated on North Brothers Island, at first in a tent and later in a disused building for contagious diseases. Three years ago the lepers were allowed to escape and since then the disease has been practically ignored by the Health Board.

It must be confessed that the Health authorities of New York have been confused and hampered in pursuing a systematic policy by the conflicting and contradictory opinions of their medical advisers as to the contagious nature of the disease and its danger to the public health. It would be foreign to the scope of this paper to present arguments in favor of the contagiousness of leprosy —suffice it to say that the clinical evidence is overwhelming and conclusive. It will be admitted, however, that the virulence of leprous germs is modified by natural agencies, and that leprosy does not always and under all conditions comport itself as an actively contagious disease. So that a perfectly honest observer who limits his field of observation to certain favored regions will find little evidence of its contagious activity.

In New York City, for example, lepers coming from countries where the disease is endemic have lived for years. Many have been sent to the Charity Hospital where they have died, one having been employed as nurse, another as orderly in the institution and, so far as is known, no case of indigenous leprosy can be traced to association or contact with these patients. Again, of the 170 or more Norwegian lepers who have settled in New Scandinavia, there has been but one single case of contamination traced to contact with these imported lepers.

Too much stress has doubtless been placed on these negative facts of contagion. The same argument might be employed against the contagiousness of syphilis and tuberculosis. Thousands of consumptives and syphilitics have been treated in the Charity Hospital without communicating their disease. Besides the lepers in New York have been for the most part Chinese and West Indians who have been comparatively isolated by their color, race-prejudice, etc., and have not mingled freely with the general community. Neither is it surprising that the Norwegian immigrants have failed to propagate the disease, when we consider the conditions of their new environment. They settled in an open country, in new houses far removed from each other, with plenty of air and space about them and were thus comparatively isolated.

If we now turn our attention to Louisiana we shall find the most abundant evidences of contagion, as evinced by the notable and alarming increase of the disease and the large proportion of indigenous cases. The endemic outbreak in Louisiana is of extreme interest and importance, not only in illustrating the variable virulence of leprosy but also as affording an example of the remarkable decline and recrudescence of the disease under the same social and hygienic conditions. It also shows that the prolonged exemption of a community in which the seeds of leprosy have been implanted does not guarantee a continued or permanent immunity from the spread of the disease. The infection of a community with leprosy, like that of an individual, usually exhibits a prolonged incubatory phase. Twenty-five years ago not a half-dozen lepers could be found in the entire State and the disease was regarded as practically extinct—over 300 cases have been recorded since that time. What has happened in Louisiana may happen in New York or elsewhere.

My own impression is that leprosy is slowly gaining ground in this country. The fact that more cases have come under my observation within the past five years than in twenty years previous may, perhaps, count for nothing, but the fact that the records of the New York Dermatological Society embrace more cases within the past five years than in the twenty-six previous years of its existence is important as an indication of the increase of the disease. Another fact of significant import is that cases of indigenous leprosy are unquestionably multiplying. Two such cases were presented to the Society within the past few months.

From this survey of the subject we may conclude that there are many indications which point to the spread of leprosy in the United States, *viz.*: The new danger of infection to which this country is exposed from its political and commercial relations with its leprosy-infected colonies, the notable and alarming increase of the disease in Louisiana, and the evidences of its indigenous growth in that State and elsewhere. Our sanitary authorities should view this growing evil not with the apathy of indifference, nor yet with the overwrought apprehension that a dreadful revival

[1] I am informed by one of my colleagues that there may be found just outside the gates of the "City of Brotherly Love" a leper who has been confined in a disused dwelling, some distance removed from any other habitation, for seven years. During this period he has lived solitary and alone, his food being brought by an attendant who deposits it in a trough outside the door. And yet this glaring anachronism in sanitary control is perpetrated in the enlightened and progressive commonwealth of Pennsylvania.

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of the medieval scourge threatens this country.

Assuming the urgent necessity of the control of leprosy in the United States we may now inquire whether this sanitary duty should be divided among local and State authorities or be centralized in the National Government.

It must be confessed that the policy pursued by our municipal and State boards of health in dealing with cases of leprosy coming within their jurisdiction is condemned by its results. It has consisted either in a resort to the harsh and cruel measure of imprisoning the leper in the nearest pest-house, or it has been a policy of inaction. There has been a lamentable failure in checking the evil and the experience of the past would seem to show that State control of leprosy is utterly impractical. Two causes may be assigned for this failure, one is the irregular distribution of the disease in the different States, the other is the expense and trouble involved in providing and maintaining separate buildings for the isolation and care of the lepers. It will be allowed that organized and concerted action is essential to any effective control of the disease, otherwise lepers living in a State where isolation was enforced would migrate to other localities where no such repressive measure was in force. The expense is considerable. Dr. Bracken states that he took occasion to inquire into the cost of maintaining two lepers in a township in Minnesota and found that it involved an expense of $1210 per annum with an addition of $1000 for a separate building. In some States there are but few known cases of the disease; in others none at all. It would be difficult to persuade the health authorities of a State in which there were perhaps but two or three lepers to assume the expense of providing a separate building for their isolation. The absence of any such provision leads the health authorities of many cities where leprosy is known to exist to conceal this fact from the general public.

For this and other reasons that might be referred to, the obvious conclusion is that the control of leprosy in this country should be committed to the National Government. The right of the Government to assume such control need not be discussed. The most ardent advocate of State rights would hardly oppose the good offices of the Government in relieving the State of the care of its lepers.

What are the most effective measures that can be employed for the suppression of leprosy? The consideration of this subject should be approached in a scientific spirit, divested of the medieval conception of the horror and virulence of the disease, and, at the same time, in a humane spirit—recognizing the leper as entitled, by reason of his affliction, to kind and charitable treatment. What are the methods by which this two-fold object—the protection of the public and the welfare of the leper—can be best fulfilled?

Isolation or segregation undoubtedly represents the most effective means known to sanitary science for the control of this and other contagious diseases. For the practical enforcement of this sanitary scheme the cooperation of the profession in reporting all cases of leprosy coming under their personal observation is, of course, essential. But to report a case of leprosy with the certain knowledge that the patient would be promptly immured in a pest-house, or confined like a criminal is abhorrent to every sentiment of humanity. Until proper provision is made for the care and medical treatment of lepers there can be no cordial cooperation on the part of the profession.

Another aspect of this question is worthy of consideration. Few physicians in this country are familiar with the clinical aspects of this disease and, therefore, are not competent to make a diagnosis. Now, the diagnosis of leprosy carries with it a grave responsibility which should not be lightly weighed. The isolation of all other contagious diseases contemplates brevity. To a smallpox patient, isolation means a few weeks' separation from his family and friends and a temporary interruption of his business, but for the leper it means an absolute and permanent severance of all his worldly interests and relations and life-long confinement. The consequences of a mistaken diagnosis are of such vital import that to prevent such a miscarriage a board of competent experts selected for their skill in the diagnosis of the disease should be appointed, and the verdict of leprosy should never be pronounced or, at least, accepted as final unless confirmed by such an examining board. Cases in which the symptoms are suspicious but not absolutely positive should be re-examined from time to time until they either clear up or become conclusive.

An intelligent discrimination should be exercised in the selection of cases suitable for segregation. I am not prepared to subscribe to the dictum "that every leper whenever and wherever found should be summarily seized under Government edict and confined until he dies," nor to the report of the Committee of the American Medical Association that "the enforcement of compulsory segregation should be absolute and implacable." A spirit of persecution, breathing out "threatenings and slaughter," has no place in the counsels of enlightened sanitary science. It is to be condemned on the ground of humanity as well as a matter of policy. The experience of all countries shows that it defeats the object in view by leading to the concealment of cases.

The highest wisdom of sanitary science is shown, not merely in the isolation of contagious diseases, but in a knowledge of the special conditions under which the contagion of each particular disease operates and the adaptation of the sanitary measures employed for its control to meet these conditions. The contagious mode of leprosy is not like that of an acute infectious disease—smallpox for example—but rather like that of tuberculosis or syphilis, depending upon the form and stage of the disease, the conditions of contact, etc.

If these conditions are absent or can be controlled in the case of the individual leper, there

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is no risk of contamination. I do not, therefore, believe that every leper found in the United States should be subject to compulsory segregation, irrespective of the form and stage of the disease and of his social and material circumstances. There would seem to be no reason to fear that an anesthetic leper in whom the bacilli are few and deeply lodged in the nerves with no chance of their elimination through broken or ulcerated surfaces in the nose or elsewhere will communicate his disease. If his material circumstances are such that he can live by himself under proper surveillance, provided with a separate room, bed, board, etc., and does not come in intimate contact with others, he is practically innocuous. In cases where such conditions cannot be complied with, the leper should be placed in an asylum especially provided for this class of patients.

My own views of such institutions were expressed in a recent article on leprosy (Twentieth Century Practice of Medicine). "Home or asylums with suitable hygienic surroundings should be provided for the care and maintenance of lepers by the National Government. Such asylums should be made comfortable and attractive and arranged with special adaptation to the requirements and peculiar needs of its inmates. In view of the chronicity of the disease lepers should not be condemned to close confinement and inactivity but should be provided with interests, means of employment and recreation. As a large proportion of lepers are able to engage in some kind of industry such institutions might be made partly or wholly self-sustaining from the proceeds of their industries. They might be conducted as colonies and provision should be made for giving occupation to those able to work. Many lepers would doubtless avail themselves of such an institution without compulsion. There comes a times in the history of every leper when he would be glad of any asylum to end a miserable existence. Again there are many lepers who would voluntarily go to such a refuge as soon as the nature of the disease is evident for fear of spreading the contagion to their family or friends."

The inmates of such institutions should be provided with proper medical care. There is no doubt that if sanatoria or colonies were instituted for the reception of lepers, as in the case of consumptives, and provided with suitable means of treatment in the earlier stages, many of the cases might be aborted or the progress of the disease arrested.

Twenty-five years ago tuberculosis was classed as an incurable disease. Under the rational treatment employed at the present day the statistics of some of our sanatoria show 25 per cent. of cures and a still larger percentage of arrests of the disease. Such brilliant results are, of course, more marked in incipient cases. The doleful statistics of leper hospitals are based almost exclusively upon the treatment of advanced cases, as incipient cases rarely enter. There can be no doubt that the lamentable failure of our therapeutic measures against leprosy is due largely to the conditions under which they have been applied. The dominant conviction forced upon a leper when placed in a lazaretto is that he is shut up to die and the utter hopelessness thus engendered renders all treatment a failure.

A qualified expert with all the modern appliances for scientific investigation should be connected with each colony. The collection of lepers would afford an admirable opportunity for the study of the disease from a scientific standpoint. In countries where leprosy has most prevailed there have been few physicians fitted by scientific training or equipped with modern instruments of precision for the prosecution of bacteriological research. Among the unsolved problems of leprosy those relating to the life conditions of the bacillus and the modes of its propagation are most important in relation to the prevention of the disease.

Finally, it may be said that segregation, although a most valuable measure in the suppression of leprosy, has always proven in countries where it has been tried a defective measure, as its thorough enforcement has been found impossible. No official drag-net can be constructed which will gather in all the lepers in any country or community. The chief causes of failure must be sought for, as already pointed out, in the attitude of society toward the leper and the punitive character of the methods employed. Lepers in good social circumstances have assured me that they felt the dishonor of the disease to be its most fearful feature. It is not surprising, therefore, that all incriminating evidences of a disease which public opinion brands with the stigma of odium and disgrace and which condemns the bearer to the same punishment that is meted out crime, should be concealed as long as possible.

One condition which would promote the success of segregation is the removal of the popular prejudice and insensate fear of the disease which, deeply-rooted in the ignorance and traditions of the past, still survive at the present day. The medical profession in their capacity of teachers as well as guardians of the public health should enlighten the public upon these points. Not only the public mind but the public conscience should be educated, so that the spirit of proscription and persecution which society has in all ages exhibited toward the victims of this disease should be supplanted by a spirit of tolerance, if not of sympathy for their unfortunate lot.

It will be admitted that there is need of a reform in the methods of dealing with the leprosy in this country both in the interest of the public health and the welfare of those afflicted. The policy of inaction, no less than the policy of penal infliction should give place to a wise, comprehensive and energetic system of segregation which should be carried out with humanity and an intelligent discrimination. Instead of the traditional lazaretto, with its veiled inscription "All hope abandon, ye who enter here," asylums

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should be provided which should be suggestive in their suroundings and mode of management of a sanatorium rather than a prison. These institutions should hold out assurances of humane care, of medical treatment, and, if possible, a hope of cure.

CAUSATION AND RELATIVE FREQUENCY OF TYPHLITIS, PERITYPHLITIS AND APPENDICITIS IN INFANCY AND CHILDHOOD.[1]

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PATIENT research and our advanced pathological knowledge have cleared up many an obscurity and forced us to disregard many a theory that only a few years since appeared tenable. Grisolle about 1839 did his best to controvert the teachings of Albers, which he correctly perceived were erroneous, but owing to the support of Dupeytren, Ferrall, Laennac and others equally as prominent, his views were completely lost sight of for nearly fifty years. He claimed that inflammations of the cecum were not accompanied by productions of pus and perforations of the appendix and pointed out that dysentery and ulceration of this part had no tendency to involve the adjacent connective tissue, but that disease of vermiform appendix with its phlegmonous inflammation, pus formation and perforations, explained satisfactorily the chain of events as we now know them to take place. The weight of evidence is so great that it must now be apparent to all that inflammation of the cecum takes little or no part in the production of appendicitis, that few cases of typhlitis exist as a primary disease, and that perityphilitis only occurs as a secondary complication. The cecal theory is now a thing of the past, as all clinical and pathological evidence is opposed to it. Renvers in 586 autopsies after perityphlitis found the appendix ruptured in 497 cases. Agar in 218 similar cases found the cecum ruptured only 29 times, but does not state whether this took place from without inwards or in the opposite direction. It is well known that inflammation of the large and small bowel has little or no tendency to involve the peritoneum and that the opposite is the rule with the inflamed appendix. With this in mind it is easy to understand how the inflammatory process can extend to the serous coat of the neighboring parts and the adjacent connective tissue. As careful an observer as Talemon states that early operation seldom or never shows that the cecum is involved (by inflammation or perforation), but admits that it may become the seat of trouble which, however, is secondary to disease of the appendix, not including those cases of tuberculosis, dysentery and typhoid. Stercoral accumulation in the cecum may occasionally produce a mild inflammation but never give rise to ulceration and easily disappear upon the administration of purgatives.

The inner coat of the gastro-intestinal tract is frequently the seat of varying degrees of inflammation in infancy and childhood, and more especially during the warmer months. Therefore, if these ordinary inflammatory processes took a prominent part in the production of appendicitis, this disease would be more frequently met with during the summer season, but such is not the case. Statistics prove beyond a question that this trouble is rather infrequent before the fourth year, increasing between that and the tenth, and that the majority occur between the latter and the thirtieth year. I have yet to see in my fifteen years' experience a case of primary typhlitis or perityphlitis, and as the literature of recent years shows the experience of others to be somewhat similar, my paper, therefore, resolves itself into one on appendicitis.

The appendix varies more in *size,* position and general make up than all the other structures of the human anatomy. In the early periods of life it is very rich in lymphoid tissue and has been styled the tonsil of the intestines. The size bears no relation to the frequency of the disease. The organ being a functionless, atrophied and rudimentary one, with a blood-supply that can easily be interfered with and which under healthful conditions seems barely sufficient, it must, therefore, be more or less susceptible on account of its low degree of vitality to inflammatory disturbances. The physiologist assigns to it no special function or even an indirect part in our vital economy.

The credit for our present knowledge belongs to us owing to the excellent work of Weir and McBurney of New York, Fitz of Boston, and Hodenpyl of this city, who, by the way, was the first to suggest that the bacillus coli communis played an important part in the production of the disease.

Etiology.—The presence of foreign bodies is now looked upon as a minor factor in producing appendicitis, but when they do exist they, like concretions, act in a mechanical way. When the mesentery is long the appendix is likely to assume a position that is almost straight, but when it is incomplete it may become curved or twisted, thus interfering with the circulation and also with the free drainage of the normal secretion preventing the egress of any fecal matter that might enter favoring the formation of concretions. The appendix is not at all exclusive in the choice of position and in about 60 per cent. of the cases the site selected favors gravity and facilitates free drainage, but when the position is a pendent one the ingress of matter is aided while the egress is hampered, thus inviting the formation of concretions. The cavity of the appendix and the opening into the cecum often predispose to inflammation; previous attacks of disease, or retrograde metamorphosis, having resulted in a narrowing of the latter or the production of one or more strictures of the lumen. Strictures are very frequent between the first and fifteenth

[1] Author's abstract of paper read before the Section on Pediatrics of the American Medical Association, Atlantic City, June 5-8, 1900.

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year and the question as to whether these lesions are pathological or the natural consequence of retrograde changes is not yet satisfactorily decided. They have been found a number of times in the fetus and also in the new-born.

Relatively the appendix is larger in fetal life, infancy and childhood than it is in the adult, and compares to the large bowel as 1:10 while in the latter it is 1:20. It is also somewhat longer and wider in the male than in the female and this holds good in early life. It reaches its maximum size between the tenth and twentieth year and from here on it remains at a standstill or diminishes. This diminishing ratio is nothing more than a physiological or pathological retrogression, and with it goes a decreasing vascularity, and as the tissues receive their nourishment through the blood, I am therefore firmly convinced that the slight immunity that exists in early life can be credited to the fact that these changes in the majority of cases are not sufficient to interfere with the integrity of the part until after the fifteenth year and statistics support this assumption as only 15 per cent. of all cases of appendicitis occur prior to the fifteenth year. The female, both young and old, is less frequently the victim of appendicitis than the male. The comparatively smaller size of the organ with its increased vascularity (an anastomotic branch being given off from the region of the right ovary) accounts for this slight immunity.

One attack of appendicitis predisposes to subsequent inflammations, and this may be brought about either by a constriction, adhesive bands, the presence of a concretion or interference with the circulation. Constipation or diarrhea, if at all, are only minor etiological factors. If, as Maicaigne states, the bacillus coli communis of diarrheal discharges is much more virulent than it is in the healthy bowel, diarrhea may then become a more active agent. Any inflammatory state in this region may at times result in an appendicitis, especially if one or more of the predisposing conditions exist, owing to the fact that the appendix is less capable of resistance on account of its diminished vitality.

In early life the mucous membrane of the appendix possesses wonderful power of absorption and this in itself may become an active predisposing cause.

Exposure is a possible element in the causation of the disease. Several instances have been recorded, but none during infancy or childhood so far as I have observed.

Typhoid and tubercular ulcers of the appendix are met with post-mortem, but are seldom seen after operation. When the solitary glands of this organ are involved during an attack of the former disease the process of healing may result in the formation of a constriction and thus this disease may become a factor in bringing about this affection. Micro-organisms are now looked upon as being active exciting agents, and the bacillus coli communis is the germ most frequently found. Hodenpyl notes its presence in 34 out of 35 cases, Hawkins in 57 out of 61, and others give like experience. They may act independently, but their invasion is usually secondary to some existing condition. Welsh states that the bacillus coli communis is innocent if the integrity of the mucous membrane is maintained, but becomes pathogenic when the same is inflamed or injured. Hodenpyl, however, found numerous bacilli in the walls of the appendix without any lesion of the membrane.

Traumatism as a cause of appendicitis may be of two kinds. Direct and indirect. Instances of the former are matters of record and while it is possible for indirect violence to become an etiological factor, I feel positive that the appendix is already in a receptive state, and, therefore, while the injury may seem to be the active agent, it is only a minor factor in the causation of the trouble. Foreign bodies and concretions, when they exist, no doubt play an important rôle. The former may become a nucleus for the latter which are always formed in the appendix, but they both occur less frequently than was formerly supposed. When they do exist they act as irritants to the mucous membrane, producing a catarrhal inflammation and facilitating the invasion of micro-organisms and, secondly, by mechanical interference, occluding the lumen, acting as a ball-valve at the opening itself, or the seat of the stricture obstructing the circulation even so far as producing gangrene, and, finally, by pressure.

Expression of a Concretion by Digital Manipulation.—On April 15, 1900, I was called to see a boy who had been suffering from constipation for five or six days. Two days prior to my visit, on forcing a movement, he was taken with pain about the umbilicus which continued at irregular intervals. On the morning of the 15th he was seized with severe vomiting, the pain increasing so as to produce syncope. When I saw him he was on his side with the thighs flexed and stated that this was the most comfortable position. His temperature was 101° F., pulse 114, and he complained of continuous pain with frequent severe spasmodic seizures, which caused him to cry out. The abdominal wall was exceedingly thin; muscular resistance was not marked. I was, therefore, able to make out the appendix with comparative ease and found it in a state of erection and in a somewhat unusual location, directed upward and outward toward the crest of the ilium. The appendix I judged to be about three inches long and about one inch from its distal end I discovered a small but hardened fecal mass which I pressed toward the gut. On the following day his condition was about the same, but I was unable to make out the appendix owing to muscular resistance. I suggested operation but the father preferred waiting until the following morning, when to my surprise the boy had greatly improved, the temperature being normal, and the pulse 84. No pain, tenderness greatly diminished; the appendix could be felt but the concretion was no longer in evidence. He complained of extreme hunger and stated that he was en-

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tirely well. Case passed out of my hands on the nineteenth as the parents considered a recurrence the main indication for an operation.

The expression of hardened fecal masses by digital manipulation to my knowledge has never before been referred to, and although the cases in which this mode of procedure would be applicable must necessarily be few, I could not refrain from directing attention to the manner in which this very satisfactory result was accomplished.

PERIODS IN GYNECOLOGY.[1]

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FIRST of all I wish to express my deep-felt appreciation of the honor you have conferred upon me by offering me the opportunity of reading a paper before you. The temptation to accept your kind invitation was so great that I could not resist it, although I know how great a risk I run in assuming the appearance of having anything to offer that you do not know and perhaps practise better than I. But when the hair turns gray and the body begins to shrink, one has reminiscences that may, at least for a moment, entertain the younger men who listen to him.

More than a quarter of a century has elapsed since I began to pay special attention to gynecology. I was then in my native country, Denmark, and gynecology was just beginning to find its way as a specialty to our shores. America was very far off at that time; still, before making it my home, I was quite familiar with the work of Marion Sims, Thomas Addis Emmet, Washington L. Atlee, and Theodore Gaillard Thomas. At that time London was the chief center to which flocked the greatest European surgeons, a Nélaton, a Billroth and a host of rising men, to learn ovariotomy from the man who had had the courage to take up again this American operation when, on account of the large mortality following in its wake, it had fallen into discredit in England. It was, then, a wonderful advancement when Thomas Spencer Wells reduced the mortality to 25 per cent. I had the advantage in 1872 to see nine ovariotomies performed by the master of the day. Although the antiseptic treatment of wounds by Joseph Lister had already been introduced at least seven years previously at Glasgow, it had hardly been adopted anywhere except in Copenhagen.

In those days the chief point of interest was how the pedicle should be treated. Baker Brown had severed it by compression and cauterization; I saw Alfred Meadows tie it with whip-cord and drop it; Spencer Wells still clung to compression by means of a clamp and the extraperitoneal fixation in the abdominal wound. Soon the energies of the whole medical world were turned to this grand operation. Its period of evolution has ended long ago. Perfection has been reached in the technic and mortality in experienced hands has been reduced from 25 to 2½ per cent. Unfortunately *pari passu* with this development has gone a greatly diminished need for the operation; since ovaries, with or without cause, were so frequently removed while small, they did not have time to form large tumors, so that ovariotomy nowadays has become one of the rarer gynecological operations.

When one examines the titles of articles on gynecological subjects in their chronological order, one is reminded of the geological layers superimposed one upon another in the crust of the earth. In those years nearly the whole interest was concentrated on ovariotomy, while nowadays we hardly ever meet with an article on this subject, on which, at least for the time being, the last word seems to have been said.

Then there came a period when the treatment of the cervix for stenosis or flexion and the concomitant dysmenorrhea and sterility was the absorbing topic. We had long discussions about incision and discission, and later, for a time, both were discarded for dilatation under the leadership of your late townsman, William Goodell. Incision, thanks to asepsis, having become safe, many, and I among them, have again returned to the more effective cutting operation.

The period of trachelotomy was followed by Emmet's operation for laceration of the cervix. In the transitional period before trachelorrhaphy was generally adopted, the scoffers had a good time, saying that one-half of the gynecologists were busy incising the cervix and the other half in sewing it up.

A little later curettage, one of the oldest gynecological operations, came into vogue. It has held its sway ever since and is at present, in my opinion, in that period of abuse through which it seems inevitable that every useful operation must pass. The general practitioner, who, in most cases, is not capable of making even a gynecological diagnosis, is very apt to put in a pessary or scrape out the womb, often with the result of starting a serious pelvic inflammation which may end in death.

With the year 1872 there came a new era in gynecology. Within the short period of a year the novel operation of removal of the uterine appendages was done by three men with different aims. Hegar in Germany did it in order to produce premature menopause in cases of bleeding uterine myomata. Robert Battey of Rome, Ga., performed almost simultaneously his so-called "normal ovariotomy" for serious nervous affections, the starting-point of which he took to be in the ovaries. Before either of these surgeons, Lawson Tait of Birmingham had extirpated the ovaries and tubes for diseased conditions in these organs themselves. Thus, attention was called to the tubes as an important seat of disease, and "Tait's operation" became the chief gynecological procedure during the next score of years. This was also grossly abused, entirely normal

[1] Read by invitation before the Section on Gynecology of the College of Physicians of Philadelphia.

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ovaries being passed round in medical societies as trophies, until a more conservative spirit taught us that even diseased tubes and ovaries need not necessarily be removed, but might often be cured by medical means, electricity or conservative operations.

During the same period considerable attention was paid to the repair of the torn perineum. Often it was only a desire to do something new that gave rise to slight modifications of old methods; but within the last few years real progress has been made, and one of these new modes of treatment is due to a member of this Section, Dr. Barton Cook Hirst.

Besides perineorrhaphy, displacements of the uterus are receiving considerable attention in our time. Alexander's operation not only holds its own but is spreading. In uncomplicated cases of retroversion or retroflexion it is my favorite operation. It seems to me that with so simple a means of relief at our command, we are not justified in performing laparotomy for conditions, which, although they may give rise to considerable suffering, never threaten the patient's life. For a time many were opposed to this operation because they failed to find the ligaments at the external inguinal ring. It has been stated by good observers that the ligament may not exist, but this is certainly so rare a condition that it may be left out of consideration. With the exception of my first operation of this kind, which was performed on an old woman on whom it ought not to have been attempted, I have found the ligament in every case. A more serious objection is that some operators have stated that the uterus, after the operation, returned to its faulty position. Here, again, I am inclined to think the fault was in the operator and not in the operation. I have reason to believe that some operators overlook the rule of Alexander, that the operation should be combined with the temporary use of pessaries. He lays so much stress on this point that he declares that if no pessary is used it is no longer his operation. If there is a retroflexion he insists on having an intra-uterine stem inserted and kept in for two weeks, and under all circumstances, the patient should wear a Hodge pessary for at least six months. Since the operation is often performed on virgins or combined with colpoperineorrhaphy, I have had special long, narrow vaginal pessaries made for the purpose of taking the strain away from the place in which the round ligaments have been fastened, without undue stretching of the entrance to the vagina. I have seen several of my patients upon whom I had performed Alexander's operation after they, in the meantime, had borne a child. There had been no trouble during pregnancy and delivery, and the uterus was found in an entirely normal position.

I do not deny that similar results may be obtained either by fastening the round ligaments to the vagina or by shortening them through this organ, but these operations are comparatively difficult and not altogether free from danger, while Alexander's operation for one familiar with the anatomy and technic, is simplicity itself. If well performed the abdomen does not even show a scar after the operation. By taking care not to extend the incision beyond the portion covered with hair, the lineal cicatrices will be entirely concealed when the new growth appears.

The chief subject of discussion in our time is, however, hysterectomy, and I think it is fast approaching the same settled condition of perfection that ovariotomy obtained long ago. In this respect the year 1890 marks the beginning of as distinct a period as did the year 1872 in regard to salpingo-oöphorectomy. In 1890 Péan laid before the International Medical Congress, assembled at Berlin, a report of fifty cases of pelvic pus collections, treated with vaginal hysterectomy by means of clamps. At that time the operation was only recommended for large, bilateral abscesses, but soon the method of entering the abdominal cavity from below was applied to nearly every morbid condition in the pelvic organs. Before Péan—leaving out of consideration a few isolated operations by surgeons of another age—this route was used by Robert Battey in normal ovariotomy and by Carl Schroeder in the extirpation of the cancerous uterus. But since Péan's paper vaginal section became so popular that to a great extent it replaced laparotomy. One of the reviewers of the second edition of my text-book on diseases of women, I believe a gynecologist of this city, reproached me for having placed vaginal section on an equal footing with the abdominal method. If he is here to-night, I wish to explain that, as an author of a text-book, it is my duty to reflect what is being done and what, by many, is believed to be the best treatment. I may at most expose the advantages and drawbacks of different methods, and I have done so frankly and distinctly. Viewed from the standpoint of the practical gynecologist, the situation is very different. In the choice of an operation I give due consideration to the following points, first, which method is preferable in itself; secondly, which is most appropriate in the given case; and finally, which I can do best. As I stated above, that for retroflexion and retroversion I preferred the extraperitoneal shortening of the round ligaments to all other methods of treatment, I may now say that, with few exceptions, I prefer the abdominal to the vaginal section. The exceptions are a uterus with beginning carcinoma or sarcoma, not involving the parametria or the broad ligaments; a myomatous uterus, not exceeding the size of the first; and pelvic abscesses in the broader sense of the word—that is to say, any purulent collection which I can reach by colpotomy and perforation. In nearly all other cases I enter the abdominal cavity from above.

Much stress has been laid by the advocates of the vaginal route on the unsightliness of the scar left by laparotomy, to which I answer that the cicatrix is found in a part of the body that is hardly ever exposed to view, and secondly, that

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if the abdomen is closed with care, and suppuration avoided by following the rules of antiseptic and aseptic surgery, the scar may be reduced to a narrow, straight, white line. A more serious impeachment of the abdominal section is that, on account of the length of the incision, it is more liable to give rise to the formation of hernia, than the vaginal section. But here again the surgeon can do much to prevent this untoward result by taking care to close the wound well.

There is less shock in the vaginal operation, since the intestines are hardly handled at all. The patient need not stay so long in bed. Pus may be evacuated without contaminating the abdominal cavity. A cancerous uterus may be removed without sewing germs on unaffected parts. On the other hand, the vaginal operation, on account of the small dimensions of the field, is more difficult to perform. We have to work at the bottom of a long, narrow tube. Without specula and retractors we cannot see anything, and when we use them they are often in the way of our fingers. Adhesions are more difficult to separate or cannot be reached at all. Hemorrhage is more difficult to check. The bladder and the intestines are more exposed to injury, and if such an accident occurs it is more difficult, or, perhaps, impossible to repair the lesion. The pelvis cannot be explored so easily and the abdomen still less.

The abdominal section offers the immense advantage that we can enlarge our incision *ad libitum*. Every part of the abdominal and pelvic cavities can be made accessible to view and touch, a feature of the greatest importance in these deep-seated affections in which the diagnosis of the most skillful often is uncertain or erroneous. When we have to deal with large, solid tumors there is no choice; but with small tumors, with some cases of ectopic gestation, and with inflammatory conditions, both routes are available, and the operator should choose the one which is most appropriate or which he can best perform.

Choosing the operation which has attracted the greatest attention in our period, I shall now describe an abdominal hysterectomy in every detail as I perform it, at the same time opening perspectives which will offer every one present, who feels so inclined, an opportunity to criticise me and speak in favor of other methods than those followed by me.

The patient is prepared for the operation by giving her a full bath and scrubbing her all over with soap, in order to have her skin in as good a condition as possible. The bowels are moved by means of compound licorice powder or sodium sulphate and furthermore emptied by administering a soap-suds enema, not later than six hours before the appointed time for the operation, as otherwise an evacuation is apt to take place during its performance. The abdomen is covered for twelve hours with a towel smeared with potassa soap, followed for a similar length of time by another towel wrung out of a solution of bichloride of mercury, 1-2000. At the time of the operation these antiseptic measures are supplemented by scrubbing the vagina with tincture of green soap and irrigating it with bichloride solution and lysol, which latter restores the smoothness lost by the use of the corrosive sublimate. Next, the abdomen is disinfected in a similar way, finishing off with alcohol.

I disinfect my hands with soap, hot water, bichloride of mercury, lysol, and alcohol. I do not use any gloves. Cotton gloves seem to me to be nugatory when we take the comparative size of their meshes and that of a microbe into consideration, and rubber gloves diminish my sense of touch and delicacy of manipulation so much that I think that on my hands they would do more harm than good. Besides that, we have sometimes pelvic operations in which we have to work in the dark with a perforator. In sliding the instrument along the index-finger, I have found that it is caught by the rubber and either folds it so as to be held back or tears it.

Before attacking the abdomen, the uterus is curetted and washed out, preferably with creolin on account of its hemostatic and antiseptic properties. In making the incision, two different scalpels are used, the first serving only to sever the skin. The *raison d'être* of this latest improvement is that the deepest portions of the cutaneous glands serve as habitat for pathogenic microbes which cannot be dislodged or killed by any applications to the epidermis. The knife that cuts through the deeper layer of the skin can, therefore, no longer be looked upon as aseptic, and it is a simple, but rational, precaution before proceeding any farther to exchange it for another.

The incision in the median line is best made from below upward on account of the direction of the fibers of the pyramidalis muscle. If there is a large tumor, we should bear in mind that the abdominal wall is thinned and under considerable tension. I have seen a gynecologist of large experience, overlooking this anatomical disposition, carry the first incision from the symphysis to the umbilicus through the whole abdominal wall and the omentum into a fibroid uterus, causing considerable hemorrhage and trouble in tying numerous vessels. It is not necessary to use any director, but the different layers of the abdominal wall should be severed one by one—the skin, the subcutaneous adipose tissue, the fascia, and the aponeurosis of the flat abdominal muscles. So far there is no danger, whereas the preperitoneal fat should be torn deliberately, and, finally, a small opening made in the peritoneum, lifting it well up and holding the scalpel almost horizontally, so as to expose the underlying omentum or intestine to the smallest possible danger. In one of my cases I found the unique condition of a fetal bladder extending all the way up to the umbilicus, between the aponeurosis and peritoneum. A bold incision would have led to an unnecessary lesion of this viscus, whereas by progressing slowly I saw the unexpected condition, dissected the bladder loose from its surroundings and dropped it into the pelvis before opening the peritoneal cavity.

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The incision should be long enough to allow a perfect inspection and handling of all organs down to the bottom of the pelvis; but, on the other hand, it should not be longer than needed, because every inch increases the danger of the formation of a ventral hernia. It is preferable not to make it longer than three or four inches to begin with and after the peritoneal cavity has been opened to extend the incision upward as far as needed and downward as far as the bladder will allow.

When the uterus is exposed, it should be lifted up, for which purpose I have found the traction-forceps invented by Dr. B. F. Baer, of this city, most excellent. I begin by tying the ovarian vessels—veins and arteries—in the infundibulopelvic ligament on one side. If there are any complications the easiest side should be chosen. These vessels run at quite a little distance below the free border of the ligament. There is, therefore, plenty of room for passing the ligature twice through the ligament, which is better than to simply tie it over the free border, as in the latter case it may slip off. As a further precaution, it is well to seize the artery separately on the cut surface and tie it with medium sized catgut. Before severing the tissue, a clamp is placed between the ligature and the appendages.

Next, the round ligament is treated in the same way, and the first incision in the broad ligament extended so as to sever it. After that, a transverse incision is carried from the point where the round ligament has been cut, about a finger-breadth above the bottom of the uterovesical pouch to the corresponding point on the other side. This incision is quite superficial, so as to implicate only the peritoneum and the superficial muscular layer of the uterus. With closed scissors, finger-nails and an occasional nick with scissors or knife, the bladder is separated from the cervix. The uterine artery on the first side is now surrounded by a medium-sized catgut ligature, a clamp put between it and the uterus, and the original incision in the broad ligament extended down into the parametrium. Often this artery may be felt before applying the ligature to it; if not, the ligature is placed where the artery normally runs, near the edge of the uterus. As a rule, we shall secure it in this way; but if we cut it, no harm is done. It is simply seized and tied separately. Dr. Nicholas Senn does not even pay any attention to either uterine artery before it spurts. The first uterine artery having been secured, a transverse incision is made through the cervix where it joins the body of the uterus. It is stated by some operators that after turning the uterus well over to the other side, they see the second uterine artery running plainly at the bottom of the wound. I must confess that I have not been so fortunate. I tie it just as the first, guided by touch or, if even that fails me, by anatomical knowledge. The second uterine artery having been secured in one way or another, the second round ligament is tied and cut and, finally, the second infundibulopelvic ligament, and the uterus is taken out in one piece with both its sets of appendages.

Now we return to the stump of the uterus. If we want to perform supravaginal amputation, which is preferable when the cervix is healthy, we only hollow the surface out by cutting out a small piece from the top surface, disinfect the cervical canal with a few drops of carbolic acid, and bring the edges of the muscular tissue together with a few interrupted catgut sutures. Last of all, the two edges of the peritoneum are united by means of a running suture from one infundibulopelvic ligament to the other.

If a total extirpation is preferred, the stump is seized with a traction-forceps, pulled up,and loosened from its surroundings, chiefly with closed scissors. The vagina is opened immediately below the cervical portion and severed all around. Some additional ligatures are needed on arteries coming from the vagina and the neighboring tissues. When the stump of the cervix has been removed, the edges of the vagina are stitched together, and then the peritoneum is closed over it, or, if preferred, the peritoneum is stitched to the vaginal edge and the hole packed with iodoform gauze. I use exclusively catgut that has been sterilized with formalin or boiled in alcohol under high pressure. By avoiding silk, we are guarded against the formation of fistulous tracts leading to a suture and slow to heal.

Dr. Senn advocates a modified extraperitoneal treatment of the pedicle, and Dr. Joseph Eastman is enthusiastic about a complete enucleation of the muscular tissue of the uterus, only leaving the peritoneal shell, both of which methods seem to me to be inferior to the one I have just described. Senn's operation takes much more time and requires two sittings. Eastman's is very tedious and nothing is gained by it, and as for peeling off the peritoneum, in my opinion it is impossible. The peritoneum of the normal and common myomatous uterus adheres closely to the underlying muscular tissue of the body of the uterus, so much so that Eastman has felt driven to construct a special pair of scissors, with little bulbs at the ends, in order to dissect it off. I believe that what he dissects off is not the peritoneum alone, but combined with a layer of muscular tissue. I have satisfied myself by microscopical examination that the muscle-cells of the uterus extend all the way out to the exceedingly thin endothelial layer forming the cover of that organ. Toward the end of pregnancy the connection between the peritoneum and the muscular tissue becomes considerably looser. In performing Cæsarean section, we see it lie like a mantle over the emptied uterus, easy to move and fold. But even in the pregnant condition the connection between the peritoneum and the muscular tissue is much denser on the fundus and the upper part of the body than on the lower uterine segment.

In a case I operated on recently for myomatous degeneration in a non-pregnant woman, I found,

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however, the peritoneum so loosely adherent that it could be lifted up between the fingers an inch from the muscular coat. It had also a different color, being white and dull, instead of presenting the usual shining pink surface. It could with the greatest facility be torn off, like the broad ligament, from an intraligamentous tumor. But this is a unique condition. I have at least never seen it before, either in my own work or that of others. It is a similar condition to that known as dermatolysis, in which the derma contains so many elastic fibers that it can be pulled out everywhere to a great length like a sheet of rubber.

I take great care in closing the abdominal wound. First, I unite the peritoneal edges with a running catgut suture, then I unite the aponeurosis by means of chromicised catgut, using the cobbler's stitch, which takes a little more time than an overhand suture, but which is done with comparative ease with Marcy's needle. Finally, I unite the skin and subcutaneous fat with silkwormgut sutures, one inch apart, and place a superficial silk suture in the middle between each two and near the ends. For a time I tried Marcy's subcuticular suture, but had trouble with it and returned to the old way, which gives me a beautiful linear union, without showing any stitches.

When the aponeurosis is united, I like to wash the entire wound with a solution of bichloride of mercury. It cannot do any harm, and it appears to me as being conducive to primary union. After closing the wound, I dust it with eka-iodoform, cover it with iodoform gauze and apply a piece of guttapercha tissue, which sticks to the skin and forms a hermetical protection for the wound. Outside of that come sterilized gauze, absorbent cotton, broad straps of adhesive plaster, and a many-tailed bandage. At the end of a week the sutures are removed and replaced by narrow strips of rubber adhesive plaster and a similar dressing is applied as the first time, except the guttapercha tissue. The patient is kept in bed for three weeks in all. This rest I believe to be of importance to secure a solid union, and I deprecate modern advices to let the patient walk about after a few days. I am also in favor of the use for three months of a snugly-fitting abdominal supporter. To do without it while the cicatrix is still weak, invites hernia; to keep it too long weakens the abdominal muscles.

I can so much more freely recommend the method described, as I do not claim any part of it as my own invention. Paul Segond, Péan's genial pupil, has adopted it and calls it the "American method." As American gynecologists it behooves us to give due credit to Henry O. Marcy for the use of the buried continuous animal suture (1881), to T. A. Emmet for the retroperitoneal treatment of the stump (1884), to Lewis A. Stimson for the substitution of the direct ligation of arteries for the unsafe mass-ligature (1889), to William R. Pryor for having shown the advantage of coming from below upward on the second side (1894), and to Howard A. Kelly for having combined most of these ideas in a clear, precise form (1896). Thus America can claim not only to be the birthplace of abdominal hysterectomy, but gradually to have developed it to its most perfect form, the chief repsentative of the present period of operative gynecology, and a worthy companion-piece to ovariotomy.

CLINICAL MEMORANDUM.

A CASE OF CONFINEMENT FOLLOWING A SUPPOSED DOUBLE OVARIOTOMY AND COMPLICATED BY AN INTESTINAL HERNIA THROUGH THE OLD LAPAROTOMY WOUND.[1]

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A CONFINEMENT following a supposed double ovariotomy or complicated with umbilical hernia is not so rare an occurrence as to demand any special mention now; but, taking into account the double complications as presented in this patient, then such a case becomes of more than passing interest. The nearest similar case to this of mine, so far as I can ascertain and I have searched all the records at my command and also have written various authorities for their personal experiences, was one detailed in Dr. Kelly's work and is given further on.

My patient was very anxious as to the final outcome when she learned of her pregnancy, and I became almost equally anxious as to her prospects, and so I wrote to Dr. Humiston of Cleveland, Ohio, after consulting my Detroit colleagues as to their experience and what I might reasonable expect in my case. He replied as follows:

CLEVELAND, OHIO, June 21, 1899.

DEAR DOCTOR:—I received your letter of June 18th in due time, and in reply beg to say that personally I have had no experience in abdominal hernia following laparotomy when pregnancy had occurred, but I have attended a number of those cases who had an umbilical hernia, not the result of operation, and while they afforded some trouble, there was really no complications during the labor. It would be well to have it supported by a binder and band, or an abdominal belt that you can get from any instrument-maker, and I should not feel particularly concerned at the time of labor.

Sincerely yours,
M. M. HUMISTON.

I also wrote to Dr. Joseph Price, of Philadelphia, for his experience and his advice and the following is his reply:

[1] Read by title before the Section on Obstetrics of the American Medical Association, Atlantic City, June 5, 1900.

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241 North 18th Street,
PHILADELPHIA, July 5, 1899.

MY DEAR DOCTOR:—Your patient will suffer more than usual throughout gestation, and the hernia ring may increase very considerably in size. Pain and tenderness about the opening is due, in all probability to some adhesions—omental and intestinal—she should wear a broad, comfortable support. Take advantage of her convalescence for closure of the opening. Free bowel and omental adhesions, split sheath of both recti and close. Keep her in bed for five weeks for a strong organization.

Yours faithfully,
JOSEPH PRICE.

I then wrote to Dr. Howard Kelly, of Baltimore, and below I give his reply. His case is the only one I can find in literature which approaches mine in its singular conditions.

1418 Eutaw Place,
BALTIMORE, MD., July 6, 1899.

DEAR DOCTOR LEONARD:—It gives me pleasure to answer your letter. There need be no added danger owing to the hernia. I would have the patient wear a snug bandage during pregnancy, and fit her with a good tight bandage when labor comes on, to keep the uterus from hanging in an oblique position. If you will look at page 467 of the second volume of my book you will see the figure of a similar case.

Sincerely yours,
HOWARD A. KELLY.

Referring to the page and work mentioned by Dr. Kelly I find this brief description of his case: "Hernia of the pregnant uterus in a negress. The uterus has escaped through a ventral hernia, due to a celiotomy May 3, 1894, of which the scar is plainly seen. The patient went to term and was delivered of a living child by a normal labor."

This case varies somewhat from mine in that the uterus came through the ventral opening; whereas, in my case, the uterus was all the time held back, and only the intestines were prolapsed through it, although the macroscopical appearance of my case was very similar to that shown in the illustration.

The only other case similar to Dr. Kelly's, so far as my knowledge goes, is the one recently reported by Dr. W. V. Anderson of Toledo, O. This case was reported to the Mississippi Valley Medical Association at its recent meeting. In this case there had been no laparotomy performed previous to the hernia of the uterus. Dr. Anderson entitles his case "Complete Hernia of the Uterus," and I condense it to the following: "A large, well-developed Polish woman, the mother of ten children, had been in labor for thirty-six hours. On examination it was found that the abdominal muscles had been separated to such an extent that the uterus had passed out between the recti carrying the aponeurosis in front of it, and the whole hung like a great pear, suspended by its cervical attachments, the fundus reaching nearly to the knees. The uterus was freely movable and the os was found to be fully dilated. The uterine contractions were good, considering the length of time the woman had been in labor, but the position of the uterus rendered them ineffective, for at each contraction of the uterus, the patient would make vigorous effort to help herself, and although the uterus would rise until its long diameter stood at a right angle to the body, the contraction and shortening of the abdominal muscles instead of assisting delivery, acted somewhat like a draw-string at the mouth of a pouch, so that the greater the voluntary effort the more it interfered with expulsion. Placing the patient under chloroform, the uterus was inverted and then steadied by an assistant while the forceps were applied (the head presenting L. O. A.), and she was delivered without difficulty of a girl weighing seven or eight pounds. The birth-canal was ample, and there was absolutely no cause for dystocia but the herniated uterus and consequent effect of the contractions of the abdominal muscles."

Now, as to the conditions met by me in my case: Mrs. D., of Irish parentage, aged twenty-six years, and married four years, was about four-months pregnant when she consulted me last July. She reported having been operated on nearly seven years previously and, as she supposed, both ovaries were removed. Some two years after her marriage she became aware that both of the ovaries had not been removed. She never menstruated regularly, the menses sometimes appearing once a year, sometimes twice a year, the flow being slight and accompanied with but little pain. This was the "normal condition" down to the time of the operation. After the operation, to her surprise, and to that of her mother, she became quite regular, the first menstruation occurring the first month following the operation and this regularity continuing down to the time of her pregnancy, four months ago (as she placed it), as it had been four months since she had menstruated and she had had "morning sickness" for the past two months. This led her and her family physician to think that she must be pregnant. She was in a fair condition of health, and, excepting the fear of serious complications, like the tearing through of the abdominal walls by the enlarging uterus at the time of labor, she was well satisfied with her new condition.

After quite careful examination, I confirmed the previous diagnosis of pregnancy; but, as to the prognosis, I was somewhat at sea, as I never saw or read of such a case; hence, the reason for the letters of inquiry addressed to Drs. Humiston, Price and Kelly, as above given. The hernia that was then presenting was, when she was on her feet, of the size of two fists, irregular in shape; this irregularity, in part, being due to different thicknesses of the integumentary coverings. Where the skin was the thinnest, there the swelling would be much the larger; at one place this covering was so attenuated that it seemed as

thin as parchment, and here was a grape-like protrusion of bluish tint; that was a little to the left of the median line. On lying down all this could be quickly manipulated back into the abdomen. The hernial opening was in the middle of the scar of the incision made some seven years before; it was about 1¼ inches in length, and you could not quite insert two fingers into the abdominal cavity through it; the marginal edges were quite thick and firm, except at the top and bottom; here they were very attenuated, and seemed as if they would easily tear to the full length of the original incision; the upper end is two inches below the umbilicus, and the lower end about that distance from the pubes; the scar is nearly ¾ of an inch in width, so much has it been stretched, and about four inches in length. The hernial opening is about in the middle of the longitudinal length of the scar, the middle of the opening being about 3½ inches below the umbilicus.

This being the condition of affairs, one had quite a different problem for solution than if it was pregnancy complicated with an umbilical hernia; for here, in my case, the uterus was bound as it enlarged, to present its fundus at the old laparotomy opening, and as the throes of labor approached and the contractions of the abdominal muscles to aid in expulsion came on, there was great danger of tearing the whole wall open; the parchment-like thinness of the upper and lower edges, and of parts of the cutaneous covering being the same, there was danger, unless one was guarding well the walls during labor, that one would get a complete rupture through the external abdominal surface as well.

She had been wearing an abdominal belt with a concave pad, and had succeeded, up to the time of her pregnancy, in keeping the hernia well in hand. But, with the pressure of the enlarging uterus to contend with, I advised a *convex* surface to the pad, and a more tightly applied band, as the hernia was enlarging all the time, this due to the uterine pressure from below.

In spite of these very peculiar and in some ways foreboding conditions, I took the cheerful side of the prognosis, and assured her that although I had never seen or read of a similar case, I believed her conditions were much more favorable than to have a forced abortion, as she had thought might be necessary; that I thought the dangers from the abortion would far outweigh those from labor at term, even with these peculiar conditions. To get further light for myself, and to reassure her as far as possible, I addressed the letters to my confrères, as above indicated, and I can assure you that all of us were heartily glad to get their messages of good cheer.

From this time onward she went on to nearly full term with cheerfulness and with a minimum amount of serious complications. The convex pad of about three inches in diameter and the quite wide and tight band of knitted silk and rubber seemed to hold both the intestinal hernia back and also control the presenting uterus, so that full term was reached with the patient in as good condition as falls to the lot of the majority of women. Our words of good cheer kept her buoyed up, and her desire for a living child led her to make willingly the sacrifices of exercise, etc., and during the growing times of the intra-uterine life of the child, she regarded this curtailment of personal pleasures as a pleasant sacrifice for her.

Having long since given up the practice of obstetrics, and also expecting that I might be absent from the city at the expected time of confinement, I asked Dr. A. H. Steinbrecher, of the Detroit College of Medicine, to look after the accouchment of the patient; he saw her at intervals leading up to the time of labor, and finally was hastily summoned a little before the time expected, to look after the final act of pregnancy. To his surprise, and to the surprise of all, the labor progressed rapidly through its various stages to completion, with little or no trouble from the hernia, or of danger of the uterus being forced out of the unadherent edges of the intra-abdominal wound. He had no difficulty in keeping control of the uterus by pressure over the old laparotomy opening; the weakened abdominal muscles delayed but little, if any, the various stages of labor or recovery. There was no trouble with the afterbirth, nor was there increased hemorrhage. The woman was delivered of a fine boy and she made an uneventful recovery from the confinement.

The subcutaneous opening is still there into the abdominal cavity, and the hernia still descends into it when the abdominal supporter is not used; but, otherwise, she seems not to suffer from her somewhat peculiar yet interesting (from an obstetric standpoint) deformity.

MEDICAL PROGRESS.

Spondylitis after Typhoid Fever.—A. Schantz, referring to this rare sequela of enteric fever (*Archiv f. Klin. Chir., Bd. 61 Heft 1, p. 605*) says that the first two cases were reported by Quincke and the third instance of the disease was recently published by Könitzer during the past year. The last case on record is that of the author with the following epitomized history: Female, aged thirty-six; married; no vocation other than housewife; taken ill early in April, 1899; admitted to the Leipsig Hospital on the 14th; severe typhoid fever; distinct rose spots; marked Widal reaction; early in the course appeared right-sided otitis media suppurativa and superficial ulcers on the sacrum; April 18th suppuration attacked and finally totally destroyed the right eye; May 26th patient was seen to be very weak in the legs, complaining of much pain on attempting to walk. June 1st discharged. Three weeks after admission she was suddenly attacked by violent lightning pains in the right leg with twitchings, also pain and total disability of the right shoulder. Two weeks after this pain of the same character appeared in the sacral region. Swellings were

palpable over the areas of pain. After discharge the patient suffered more and more from the pains and was confined to her bed. Although rest in bed made the pains less severe, they made sleep impossible. Her general condition deteriorated rapidly. During this interval several examinations, medical and gynecological, were made, without any diagnosis. The author saw her first on July 15th, while assisting at enucleation of the eye and made the diagnosis of spondylitis. There was tenderness on pressure over the lower lumbar vertebral spines, which on percussion awakened deep, dull pelvic pain. Muscular rigidity and fixation of the vertebral column were also distinct. No deformities. No swellings. Active patellar reflexes. No ankle-clonus. Light twitchings of the adductors. The right shoulder was in strong contraction. August 22d the patient was finally brought under treatment. During this interval she had become unable to walk. The usual orthopedic apparatus and jacket were applied with remarkable and prompt results. After six weeks she was able to sit up one hour daily, which intervals were slowly increased and attempts at standing and walking made. November 13th discharged with no pains, some weakness of the knees, normal reflexes. January, 1900, she was in excellent health, going about the house, taking walks an hour long, although still using the apparatus and exercising great care. The diagnosis here lay between an infection other than typhoidal of which the eye and ear disease may also have been expressions and a typhoid secondary invasion. The distinct and typical symptoms and course of the attack make it beyond doubt to have been a case of typhoid fever, followed by the foci of secondary suppuration. The first case of Quincke may not have been an example of real involvement of the bony so much as of the muscular structures, because it presented features which are not usual in frank cases of spondylitis. These facts were a tenderness over the lower lumbar and upper sacral spines which after four days shifted to the tissue adjoining them and after twelve days more was acute over the tenth and twelfth dorsal spines. Such variations of the site of pain and tenderness do not appear in true disease of the vertebræ. In the other three cases no such conflict between the histories of a Pott's disease of the spine and those quoted exists. It is possible that an existing, slowly progressive, entirely latent tubercular disease was excited to violent activity by the typhoid fever. But in the absence of any previous history pointing toward that condition and in the presence of the direct connection between the primary and secondary manifestations makes it very probable that the bacillus typhosus was responsible for the whole. The pathology of typhoid bone-disease and its symptoms elsewhere in the body are so well known that a review of the ordinary course one might expect of such a spondylitis will be instructive. Its occurrence will be in comparison with other typhoid osseous lesions as frequent as the parallel in tuberculous bone-disease, and its onset should occur at about the same time as the other foci of the bacillus typhosus secondary to the original invasion, namely, there will be very early, very late appearances and others just at the beginning of recovery. The very tardy cases will be difficult to differentiate from tuberculous lesion. The degree of the sickness will also vary between acute, subacute, chronic, temporary and prolonged attacks. The presence and absence of deformity will be according to age, rare in adults; and to destruction of the bone, absent when none has occurred. Abscesses also must occur in the long attacks whose contents alone will pronounce their identity as typhoidal. In general the sudden intense invasion soon after or in connection with the enteric state will suggest the origin, as will the presence of suppurating foci elsewhere in the body. Over 40 per cent. of all typhoid bone-disease show multiple scattered lesions, as in the author's case, shoulder, eye, and vertebræ. Finally with reservations Widal's reaction will aid. The treatment suggested is rest, maintained in the mild cases by simply keeping the patient in bed, in the severe and intense cases by applying suitable apparatus or jackets.

Erythromelalgia.—A short and comprehensive review of what is known concerning erythromelalgia is given by M. Kahane (*Klin. therap. Woch.*, May 20, 1900). In the earliest cases observed, the toes were affected and the disease then showed a tendency to spread upward, but since then the upper extremity or both upper and lower extremities have been seen involved and even internal organs, such as the brain, testicles, etc., have been the seat of the peculiar process. The pains, which are so prominent a feature, are of burning or stinging character and often extreme in degree. They may be paroxysmal, but later become continuous and may be intensified during the night and with hot weather. The discoloration may be of a bright red or more of a bluish hue and is diffuse or circumscribed, sometimes with nodulations. Hyperesthesiæ and paresthesiæ of touch and pain often occur. Of other nerve-disturbances there may be mentioned paresis of the limb, hyperidrosis and, in old cases, trophic changes such as sclerosis, atrophy, edema, rhagades, ulcerations and depraved nutrition of the nails. It is impossible as yet to explain the nature of the disease, since it is not even settled whether it is to be looked upon as an entity by itself or merely as a manifestation of certain disorders of the nervous system. The pathology, also, demands further study, but it is clear that in some cases neuritis and perineuritis, as well as diseased vessel-walls, are present in the affected parts, while the cord may show the lesions of tabes, myelitis, syringomyelia, etc. Several cases which seemed to depend on functional nervous disorders, especially hysteria, have been described, yet it is possible to have nothing but the local changes. The usual causes of neuritis,

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such as exposure, overexertion, malaria, syphilis, etc., must also be regarded as bringing on erythromelalgia. There is no uniform method of treating; some do best with rest, elevation and the application of ice, while with others hydrotherapy, electricity and massage with ichthyol or ethyl chloride locally and the salicylates, antipyrine, ergotine or morphine internally may achieve a cure. When dependent on some underlying disease, this must be treated. The course is apt to be chronic.

Alcohol and the Death-rate.—Although the use of alcohol is an important factor in regard to the prognosis of disease, it seldom figures as the cause of death. Yet it is the direct cause of death, says Ch. Fernet (*Bull. de l'Acad. de Méd.*, May 14, 1900) in the accidents of drunkenness, such as injuries, exposure to cold, etc., or when excessive drinking results in a fatal acute gastritis, or gastro-enteritis, hepatitis, or pneumonia. It is a direct or more remote cause when it produces the ultimately fatal chronic conditions of arteriosclerosis, cirrhosis of the liver, interstitial nephritis, inflammation of the stomach and intestines, cardiopathies and meningo-encephalitis. By inducing delirium tremens or from having lessened the recuperative power of the body, it is an indirect cause of death through rendering more fatal such acute infections as pneumonia, influenza, erysipelas, etc., and certain traumatic lesions. More indirectly still does it cause death by reducing the resisting power, and rendering the body more susceptible to infection, or by causing abortion or the procreation of non-viable or mal-developed infants.

The Surgery of Liver Abscesses.—J. Smits (*Arch. f. klin. Chirurgie*, B. 21, Hft. 1, p. 173) mentions 21 cases of hepatic suppuration, of which 3 resulted fatally, although all were treated by operation. These cases all occurred in the tropics. The author describes the various surgical methods of dealing with the condition, puncture with aspiration or drainage, and the open operation with wide exposure, free immediate evacuation, and continuous efficacious draining of the abscess cavity. Puncture is valuable chiefly as a diagnostic procedure and it carries three dangers, namely, sepsis, damage to one of the main blood-channels resulting in fatal hemorrhage and entrance into a neighboring organ which may be intolerant of traumatism. As a rule, the exploratory use of the needle should be made part of the treatment and the operation should follow at the same sitting. After the needle has been driven through skin and muscle, it is stated as good practice to draw out and secure the piston so that a vacuum is made for a part of the capacity of the cylinder. The needle is then pushed in until this safety vacuum is filled with pus. In this way danger of passing the instrument through and beyond the abscess into sound liver-tissue is avoided. By making the aspiration part of the treatment the needle may be carried across the pleural and peritoneal cavities with scarcely any danger of infecting them. The author states that, although frequent deep punctures with large needles have been his rule, in none of his cases did he get a single bad result therefrom. After pus has been located he withdraws the needle until the pus no longer flows into the cylinder and then consigns the aspirator to an assistant who holds the needle *in situ* as a plug to its track against outward flow of the abscess-contents and as a guide for the evacuating incision. The mere puncture of an abscess and aspiration as curative measures are condemned on the grounds that they give no means of establishing complete evacuation or of providing against rapid recurrence of the pus. Eleven cases, with ten deaths and one recovery only after spontaneous rupture of the focus into the lungs, are cited as proof of his argument. The use of the trocar and cannula, followed by the insertion of a drain-tube through the latter before its removal, is also trustworthy. Its sphere is only as a temporary relief of superficial abscesses about to point through the skin, so that the patient may be more comfortably and safely transported to the hospital. The first radical operation is the simple wide incision obviously available only in foci at the stage of spontaneous emptying through the skin. As a curative measure it is usually insufficient but may be used like the trocar as a temporary palliative. Another crude and occasionally successful method is to open the liver along the aspirating-needle through the abdominal cavity, when adhesions may or may not have occurred, while the assistants force the liver against the parieties. The pus is then rapidly evacuated. Its successes certainly must have been due to abundant previous adhesions, but clinically the presence of these is often very difficult to establish in advance. None of the foregoing curative attempts fulfil the final indication of all abdominal and pleural operations, namely, the walling-off of the main cavities both during the surgical manipulations and during the after-treatment. The older methods of accomplishing these points consisted in the primary exposure of the organ, packing the wound with or without the suture of parietal and visceral serosæ, and, after sufficient delay for the establishment of the protecting adhesions, the secondary treatment of the abscess. Entire clinical success followed the use of this method in 16 out of 19 of the author's cases. The fatalities had no relation to the operative technic. The primary methods *per se* depend upon the immediate necessity for opening the abscess and are subject to two variations in detail, first, suture of the serous layers together before opening the suppurative site; second, tamponade of the adjoining approaches to the general cavity, then evacuation of the pus followed by suture of the peritoneal leaves directly or after creating flaps of the membrane to compensate for recission of the liver. The author's choice rests with the latter technic. In addition to the thoracic approach through pleural adhesions or through the parieties just distal to the

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pleural margin, there remains the method of inevitable opening of the pleural cavity. Here, again, we have the primary building of adhesions and the subsequent evacuation, or the immediate suture and tamponnade of the pleural divisions and primary attack upon the suppurating liver. The pleural leaves may be sutured alone, together, or strengthened by flaps of diaphragm tissue. With care both methods result favorably. The last operation used by the author in one case with entirely good outcome was that of resection of the lower anterior thorax-wall after Lannelongue, adapted to abscesses beneath the costal cartilages. Here the cartilages of the eighth, ninth, tenth and eleventh ribs are exposed and resected, the parietal and visceral peritoneum managed in one of the foregoing manners, and the disease treated. The resulting damage to the thoracic and abdominal walls appears rather immaterial as the muscle-functions can by care be largely spared. The after-treatment is concerned with keeping the outer dressings clean, the drain-tubes patent and drainage active, and with the entire absence of irrigation, curettage stimulation or other interference with the abscess-cavity. Any such treatment may cause an extension of the disease or an obstinate flow of bile which would otherwise have been stopped by the processes of nature already present. The prognosis depends upon the early diagnosis and prompt thorough management of the disease. Great emphasis is laid on the fact that of the author's patients 11 had had intense single or repeated malarial attacks, while only 4 gave a history of dysentery and 1 of diarrhea. His treatment was distributed as to methods and results as follows: Primary and secondary operations, transpleural 12, cures 11: abdominal 6, cures 4; Lannelongue's operation 1, cure 1: primary and immediate evacuation, transpleural 1, abdominal 1, each cured.

Seasickness.—At this season of the year the suggestions in regard to the treatment of seasickness made by H. Partsch in the *Med. Rec.* (June 9, 1900) are most apropos. A long experience on ship-board has taught him that previous preparation is unnecessary and useless. Rooms amidships are preferable and good ventilation is extremely important. For the first few days, lie down most of the time, keeping the eyes closed and avoid excitement or tiring conversation. Whenever the slightest sensation of illness is felt lie down at once and close the eyes. Usually only one pillow should be used and if very ill no pillow at all. Seasickness is the result of the disturbance of the circulatory apparatus and the accumulation of blood in the relaxed abdominal blood-vessels. Retching is Nature's method of flooding the brain, and vomiting and nausea are merely incidental, not essential. An abundance of nutritive material is necessary. One should eat about seven times daily, and the sicker the patient the oftener he must eat and the less at a time. When seasick the easily-digested fluids are best, such as ale, porter, stout, broths, soups and meat extracts, the desires of the patient being considered. Food should always be taken at least ten minutes before arising in the morning, and when the patient is ill food should be taken without raising the head. The worst case of retching will be easily made comfortable in at least thirty minutes, by lying down without a pillow, closing the eyes and taking a pint of stout in six doses at five-minute intervals. Another food is made by mixing the yolks of two raw eggs with an equal amount of brandy and giving a teaspoonful at ten-minute intervals. The best time to take any beverage or food is just after a paroxysm of retching. Should it be taken before and thrown up, then take another dose immediately afterward and that will stay down. Severe headaches may be controlled by bromide of sodium in thirty-grain doses, to be repeated in one hour.

Recurrent Diphtheria.—In the *Med. Chronicle* (May, 1900) R. W. Marsden has reported three cases of laryngeal diphtheria treated by the antitoxin method which after entirely recovering from the original attacks had reinfections after twenty to twenty-five days necessitating in two cases a second tracheotomy. Another case of tonsillar diphtheria had a recurrence five weeks after the first infection. The question raised is whether these were cases of self-infection or due to a reinfection from without, and how long immunity from the disease lasts as a result of antitoxin injections. The author does not believe that exposure to the germs outside is necessary for the explanation of these recurrent attacks and when an attack has been terminated by the use of antitoxin, immunity from the disease may end at the expiration of three weeks. It is interesting to note that in each instance the second attack was of an exactly similar type to the original one, seeming to prove that the primary set of infection predisposes that part for some time to a reinfection. The author believes that during convalescence from an attack of diphtheria, the reinjection of antitoxin must be immediately performed upon the supervention of "croupiness" or signs of laryngeal stridor.

Bromide Treatment of Opium Habit.—Dr. Macleod of Shanghai reported in 1897 a series of several cases of the opium habit which he had treated by a method known as the "bromide sleep." He has since had three cases and of his series two deaths have occurred, one presumably of pneumonia and the other of a septic intoxication. In the *N. Y. Med. Jour.* (June 9, 1900) A. Church gives a detailed account of two such patients treated by the bromide method, one, a physician under his own care, gave very alarming symptoms of cardiac and respiratory disturbances during the treatment and seemed unlikely to recover. A slow but most satisfactory convalescence followed without any further desire for morphine and with a marked improvement in the general condition. The other case developed an exacerbation of a chronic nephritis

and died of uremia on the twelfth day. Enormous doses of sodium bromide were used by mistake in this latter case and probably induced the nephritis. Macleod's results were very satisfactory and obtained with greater certainty and more rapidly than by any of the ordinary methods. One hundred and twenty grains of sodium bromide are given every two hours in a half-glass of water until one ounce is given on the first day. On the second day a smaller amount is given and this may be sufficient or the doses may be continued on the third day. If the patient cannot be roused the administration may be ceased after twenty-four hours. The drug acts in a cumulative way and the sleep tends to deepen oftentimes for forty-eight hours after the drug is stopped. It is claimed that the intense suffering, vomiting, sneezing and cravings for morphine, which usually mark its sudden withdrawal, can be avoided by this method. The tendency to relapse seems to be reduced to a minimum, but the method is not without its dangers.

Rheumatoid Arthritis, Gout and Rheumatism.—The diagnosis of chronic rheumatism is, no doubt, very frequently made for other conditions, such as rheumatoid arthritis and gout, and yet it is very important that the mistake should not be made. An excellent article appears in the *Practitioner* (May, 1900) by A. P. Luff on the distinguishing features of these affections. Rheumatism in the chronic form usually affects the joints, but may not manifest itself as an arthritis at all, but by producing a chorea or erythema nodosum or by affecting the muscles alone. Salicylate of soda is a rough method of diagnosis for nearly every case of true rheumatism will respond to it. Chronic rheumatism never produces a marked deformity, such as lipping of the cartilages and bony outgrowths. The pain is usually more acute and flies from one point to another. The distinction between gout and rheumatoid arthritis is more difficult. Gout appears most commonly in males, among the well-to-do. It is improved by a restricted diet. The onset is sudden and obvious and usually begins in the feet with swelling and inflammation. Rheumatoid arthritis most commonly occurs in females and among the poor and ill-nourished, and is improved by full diet. The onset is insidious and there is at first no observable swelling of the joints. Although it ultimately affects many joints, it frequently begins in one of the joints of the thumb and gradually spreads to other joints especially of the hands. The temporomaxillary joint is never affected in gout but frequently in rheumatoid arthritis. Another important distinction is that a remarkable symmetry occurs in the affection of the smaller joints of the hands in arthritis but never in gout. This symmetrical nature of the disease has caused a nervous origin to be suggested, but the author does not believe this to be true, because the disease does not begin symmetrically. Furthermore the muscular atrophy is probably wholly of disuse, no reaction of degeneration is ever found and no anatomical lesion of the nervous system has been seen post-mortem. It is now believed to be an infectious disease and recently diplococci have been cultivated from the joints of an undoubted case of rheumatoid arthritis, which when injected into rabbits caused a similar articular disease to that from which the patient had suffered.

Tuberculosis in Colorado.—In Denver in 1893 the number of deaths from tuberculosis was 435; in 1898 the number was 501. In 1893 the number of deaths from tuberculosis specified as contracted in Colorado was 49, or 11.26 per cent. of all deaths from the disease; in 1898 the number was 99, or 19.77 per cent. This increase in the number of deaths from tuberculosis contracted within Colorado resulted in the appointment by the State Board of Health of a committee to investigate and outline a plan whereby the unnecessary spread of the disease might be restricted. G. E. Taylor (*Jour. Am. Med. Assoc.*, June 2, 1900), one of this committee, tells of the scope and results of the inquiry and of the measures agreed upon to lessen the spread of the disease. The scope of the inquiry included all possible sources of infection. These may be divided into three classes: (1) The expectoration of consumptives. (2) The milk from tuberculous cows. (3) The flesh of tuberculous animals. It is known that the expectoration of consumptives contains the tubercle bacilli and that these bacilli are the cause of tuberculosis in others. While the expectoration remains moist the bacilli are not distributed in the air, but as soon as it dries they are freed and float in the air, and are inhaled and cause the disease in others. Inasmuch as the danger increases as the sunlight and fresh air decrease, there is greater danger from indoor expectoration than from outdoor spitting. It has been proved, however, that there is danger of infection from the expectoration of consumptives even after thirty-five hours of exposure to direct sunlight. There is danger of infection from the expectoration of consumptives in all stages of the disease, even in the very early stages. Those liable to be infected from this source are: (1) The consumptive himself, who undoubtedly often reinfects himself by carelessness and so brings about a fatal termination of his disease which might have been conquered. (2) All persons who associate more or less intimately with the consumptive. (3) The public generally by the expectoration on the streets and in other public places. (4) Animals are liable to contract the disease from the expectoration of human consumptives. Cows suffering with tuberculosis may give milk containing tubercle bacilli. This may obtain without the cows presenting sufficient symptoms to arouse even a suspicion that they have tuberculosis. There is no doubt that milk from tuberculous cows is a great source of danger, and that attention should be paid to it. A large amount of investigation and

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numerous experiments have demonstrated that the flesh of tuberculous animals may transmit the disease to those eating such flesh. Thorough cooking kills the bacilli, but so much meat is eaten rare that it should be subjected to thorough inspection. The writer cites that in New York City, for six years, the annual death-rate from tuberculosis per 100,000 among the Russian Polish Jews was but 76.72, while for the remainder of the population it was 427.75, and he wonders if their scrupulous care as to meat inspection has not something to do with their wonderful relative freedom from the disease. There are practically only two ways of determining the presence of tuberculosis among cattle, *viz.*, post-mortem inspection and the tuberculin test. The latter method, which the writer describes, is the only satisfactory one. When tuberculosis is discovered in a herd (1) the reacting animals should be branded and separated absolutely from the non-reacting animals; (2) the barn which they have occupied should be thoroughly disinfected; (3) no milk from the reacting herd should be sold; (4) it is not necessary to slaughter every reacting animal, for, unless the tuberculosis is general, the animal may be fattened for beef, provided a thorough post-mortem inspection is allowed. The following measures to lessen the spread of tuberculosis among animals and mankind in Colorado were agreed upon by the local and the State Boards of Health and are to be carried out by their officers: (1) The education of the public by a circular setting forth the dangers from expectoration and from the milk and meat supply, and the measures necessary to prevent the danger. (2) Public expectoration should be lessened by proper placards and be prohibited by ordinances in the larger places of the State. (3) All rooms where deaths from consumption are reported should be disinfected immediately by local health officers. (4) All insane asylums, prisons, reformatories, and hospitals should be required to keep tubercular and non-tubercular inmates separate. (5) Dairymen should be compelled to produce official certificates of freedom of their herds from tuberculosis before they are given permits to sell milk. (6) The employment of tubercular persons on dairy-farms or at milk depots should be absolutely prohibited by ordinance. (7) Ordinances should be passed prohibiting private slaughter-houses and requiring that all animals be slaughtered at public abattoirs under competent inspection. (8) The active aid of the public press should be enlisted in furthering all phases of this important work.

Operative Treatment of Simple Fractures.—W. A. Lane (*Lancet*, May 26, 1900) says the supposition that the surgeon can "set" fractures satisfactorily and retain them by splints is purely mythical especially those of the leg; also the idea that muscular spasm is the factor opposing accurate apposition of the fragments is equally fallacious. The muscles form ties between the end of the bones, and after a fracture these ties have their transverse axes increased by hemorrhagic and inflammatory exudate, and, therefore, their long axes must be shortened thereby, causing and maintaining deformity. This view is proven by the fact that under anesthesia with complete muscular relaxation, it often requires great force to replace the fragments in proper position. Failure to secure perfect apposition often leads to persistent pain, interference with the functions of neighboring muscles, and often causes changes in neighboring joints. In cases of simple fracture, especially in the bones of the leg, where accurate apposition (determined by radiograph) cannot be obtained, incision should be made and the fragments properly fixed by suture, peg, screw or other mechanical means.

Epicarin.—This new therapeutic agent is a combination product of kresolin and beta-naphtol, easily soluble in alcohol or ether. It is a powder of slightly yellowish color and has been proven free of any poisonous or inflammatory reaction. The action of epicarin externally applied is to produce mortification of the superficial layers of the epidermis and occasionally to produce a slight exudation. The scope of its administration is coextensive with that heretofore accorded to naphtol, namely, scabies and the dermatosycoses. In scabies the best method of application is a ten-per-cent. ointment. The annoying itching ceases very often after but one application of the ointment. In prurigo the most surprising results have been attained with epicarin. In this affection the entire body of young children was rubbed with the ointment as often as ten times without causing either albuminuria or other disturbances. In herpes tonsurans a ten-per-cent. alcoholic solution may be used as well as the ointment with good results. For scabies, eczema squamosum, etc., the following formulæ are suggested:

1. ℞ Epicarin 10.0
   Unguent. simpl. 100.0
   Ft. unguent. Ext. use.
2. ℞ Epicarin 10.0
   Spir. Vin. gallic..... 100.0
   Spir. Vin. lavand..... 25.0
   Glycerin 10.0
   M. Sig. As a wash.—*A. Kaposi* (*Wiener med. Wochenschrift*).

Inflammations in Serous Membranes.—In discussing the pathology of adhesions as they occur in the pleura and peritoneum, G. Muscatello (*Münch. med. Woch.*, May 15, 1900) states that the pure and simple desquamation of the surface endothelium is not sufficient to cause an agglutination between adjacent surfaces, but that this process must always be preceded by a true inflammation with exudation of fibrinoplastic material. Furthermore, the author emphasizes that when all the conditions necessary to produce cohesion between two surfaces are present, the fact that the endothelium has not been lost will in no wise interfere with the process, as has been recently stated.

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SATURDAY, JUNE 16, 1900.

INFECTIONS AND DECREASE OF VIRULENCE.

No statement is heard more frequently at medical society meetings than that the ordinary infectious diseases are much less virulent than they used to be. A corresponding statement as to the mildness of our present-day writers is constantly heard from the "oldest inhabitants." As a matter of fact, consultation of the statistics of the weather bureau during the last sixty years, shows that the average temperature of our climate has not changed perceptibly within the memory of any one now living nor as long as statistics have been kept.

There is a tendency in human nature to remember early impressions very vividly and to exaggerate their importance in comparison with observations made later in life. Man remains as truly to-day as in Horace's time *laudator temporis acti se puero,* apt to think the past more significant than the present. The fact is, the more serious epidemics, just as the severer winters, produce a vivid impression that is regarded later on as the average, instead of the extreme, experience.

Improvement in hygienic conditions has undoubtedly limited the spread of contagious diseases and very probably modified their fatality. The change is not, however, as great as has been claimed by some of the older practitioners. The old contagious diseases, like bubonic plague, the history of which can be traced for millenniums, have remained absolutely unchanged in their essential characters and in the fatality they cause under favoring conditions. This persistence of the natural characteristics of certain diseases during centuries has been quoted by biologists as a convincing demonstration that species do not change under the influence of time and environment. Thousands of millions of generations of the bacillus of bubonic plague have come and gone since the disease first made its appearance in history, yet men are affected in just the same way as they were, according to the first historical accounts, and the mortality from the disease is not a whit the less to-day than it was originally.

In this question of the modification of virulence of contagions we are face to face with one of the great biologic problems, the variation of species. Either specific bacilli have lost their power to harm, a quality that is inherent in their essential parasitism, or man has gained in vital resistance a fundamental property that depends on his natural metabolism. Careful scientific observations have not been extended over a sufficiently long period of time to affirm or deny either of these propositions, but the probabilities are that neither is correct.

THE PATHOLOGICAL INSTITUTE.

WE present this week a temperate, dignified letter from Dr. Van Gieson which to a certain extent sets forth his attitude, as Director of the Institute, toward the position that has been assumed by the President of the State Lunacy Commission. Accompanying it are the protests that have been signed, attesting the high estimate in which the work of the institution is held and the resentment that is aroused by the present effort to suppress its research work. An indignant protest from Dr. Spitzka follows.

The men who have signed these protests are the leading neurologists and psychologists of the world. No more convincing testimonial to the value of the research work already done by the Institute, and the promise this work gives of future achievement, could be presented than is contained in these protests against the blighting influence of the Lunacy Commission. When we recall the fact that Dr. Wise himself is on record as extolling the work of the Institute and

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bidding it Godspeed, and that the greatest minds of the world in this specialty are adding their testimony to the value of the work, wonder is aroused as to the cause of the new attitude assumed by the Commissioner. The sting of conscience in reference to opinions already expressed by him has come very suddenly and the question suggests itself: Why this change of heart? The longer the Institute exists and the more research work it accomplishes, the stronger grows the faith in its power to throw new light upon the subject of psychopathology.

The law announcing the purpose of the Institute distinctly includes pathological research. As we have said over and over again, the pathology of insanity is absolutely unknown. Dr. Wise speaks of the modern treatment of the insane and points to it as one of the triumphs of clinical observation and study, but every one knows that what he calls *the treatment of the insane is only the application to insane people of the ordinary rules of hygiene, sanitation and dietetics, together with the treatment of intercurrent medical and surgical diseases.* But treatment of insanity—the condition which justifies the presence of the insane in the State Institution—there is none. State hospitals are custodians of the insane, and bear very much the same relation to the inmates as the physician of the penitentiary bears to its inmates. Both look after the hygienic and sanitary conditions and both treat any intercurrent diseases or conditions that may arise. But no more treatment is known or applied to insanity, *per se*, than is known and applied to the mental or moral degeneracy that produces crime. Until some knowledge of the pathology of insanity has been gained there is no possibility of any scientific treatment of it, and the only hope of obtaining this requisite knowledge lies in the work instituted by Dr. Van Gieson of the New York Pathological Institute and in similar institutions. The interests of the insane, the interests of the State, the interests of humanity are enlisted in unravelling the secret with which the Institute is wrestling. As we said before, Hands off! Give it time and opportunity.

ECHOES AND NEWS.

NEW YORK.

New York Hospital Appointments.—Dr. Alexander B. Johnson and Dr. Percival R. Bolton have been appointed Visiting Surgeons to the New York Hospital to fill vacancies caused by the resignations of Dr. William T. Bull and Dr. Robert F. Weir.

Dr. Pilcher Honored.—At its recent Commencement, Dickinson College conferred the degree of LL.D. upon Dr. Lewis S. Pilcher, editor of the *Annals of Surgery.*

A New Gouverneur Hospital will be built immediately on the site of the present very much dilapidated structure at Gouverneur Slip, between Front and Water Streets.

The Presbyterian Hospital has just received a donation of $200,000 to be devoted to the erection of a new pavilion.

Censure of Bellevue Officials.—An inquest was held on June 6th in the case of an insane negro who died in Bellevue of internal injuries which he received during a violent struggle with three attendants. The attendants were not blamed, but the authorities were censured "for failure to discover the extent of the injuries."

Contagious Diseases.—For the week ending June 9, 1900: Measles, 419 cases and 21 deaths; diphtheria, 294 cases and 43 deaths; laryngeal diphtheria (croup), 7 cases and 5 deaths; scarlet fever, 101 cases and 7 deaths; smallpox, 4 cases; chicken-pox, 2 cases; tuberculosis, 203 cases and 139 deaths; typhoid fever, 31 cases and 4 deaths; cerebrospinal meningitis, 8 deaths; totals, 1079 cases and 227 deaths. Death-rate for the week ending June 10 in New York City was only 15.71 in a thousand as compared with 21.44 for the same week last year and 21.77 in 1898.

Insane Asylum Fete.—The patients and employees of the Manhattan State Hospital for the Insane held a carnival of sports May 30th on the grounds of the hospital on Ward's Island. One event was a basket-ball contest among the women. The "chronics" from the Verplanck Building, who were dressed in brown, played against the "acutes" from the branch buildings, who appeared in blue. The games were refereed by Dr. Archibald Campbell.

A Feigned Cripple.—One Henry Miller, twenty-six years old, was taken to the 125th Street police station on a charge of vagrancy. One arm was done up in splints and bandages and hung in a sling. His head was bandaged above the eyes. At the station he said he had just left the Mount Sinai Hospital. When it was attempted to remove his bandages he fought lustily and gave evidence of still having great vitality. The bandages were all removed, upon which Miller was found to have sustained no injury. He admitted having carried on the deception for three weeks. He was committed to jail for six months in default of a $500 bond.

Licenses for Maternity Hospitals.—The Appellate Division of the Supreme Court has affirmed the conviction of Louisa Wagner upon the charge of having violated a provision of the Penal Code prohibiting the maintenance of a ma-

ternity hospital without securing a license. The requirement of a license, the Court said, is to enable the public authorities to make proper sanitary regulations as to such institutions, so that their inmates would not be exposed to infection or the dangers that arise from improper medical attention, and also to insure that such institutions shall not be perverted to improper uses.

His Blood for a Price.—A man who called himself Joseph A. Reynolds wrote to Superintendent O'Rourke of Bellevue Hospital on May 31st, offering to sell a portion of his blood for transfusion to any "anemiated" person who might require it. This he wished to do "to save his wife and himself from starvation." The Superintendent made public the letter, upon which a number of reporters visited the so-called Reynolds. To them he divulged "the sad, sad story of his life and his real name." Some of these reporters were in reality detectives employed by the State of Massachusetts, in which State he is "wanted" for forging bounty checks. His own statements to these reporters have brought about his imprisonment. In the meantime an emotional public had read his letter in the daily press and had contributed sufficient to make "Reynolds" comparatively wealthy.

A Woman Swindler Imprisoned.—A woman who calls herself Mrs. Bridget T. Redmond was recently convicted of swindling persons from whom she collected subscriptions for the Guardian Angel Nursery at 98 Varick Street. It is said that her real name is Catherine Fay, and that she has already been convicted of a similar offence in Philadelphia. Justice McKean told her that she had not only swindled many honest people, but had by her actions tended to cast a doubt over the honesty of many persons making similar appeal for support. She was sentenced to one year's imprisonment in the penitentiary.

Resolutions Upon the Death of Dr. Gray.—The members of the New York Neurological Society wish to record their profound sorrow at the untimely death of Dr. Landon Carter Gray. As one of the earliest members of the Society, he was ever zealous in its behalf, and during many years of his activity added much to the interests of its meetings. His work was characterized by care and thoroughness in preparation; his thoughts were soberly presented in the light of a large clinical experience, and his conclusions were those of a sound thinker. In every line he wrote and in every word he spoke there was evidence of broad culture and refinement. He was a kind friend to many, disposed to help those who sought his counsel, and was always ready to allow for honest differences of opinion.

WHEREAS, the members of this society have sustained a severe loss in the death of their honored friend and colleague,

Be It Resolved, that this acknowledgment of Dr. Gray's estimable qualities be recorded in the minutes of the Society, and that a copy of these resolutions be sent to the *New York Medical Record*, the *New York Medical Journal*, and the MEDICAL NEWS.

B. Sachs, M.D., Chairman.
Charles L. Dana, M.D.
Frederick Peterson, M.D.

Death of Dr. Paul Gibier.—Dr. Paul Gibier was thrown from a buggy in a runaway accident and sustained a fracture of the skull on June 10th. He died a few hours afterward. The disaster occurred near the medical institute of which he was the head, at Suffern, New York. Dr. Gibier was born in France in 1851. He was a graduate of the Medical University of Paris. For his investigations of the cholera in Spain he received a gold medal and for his work upon the same disease in the South of France he was made a Chevalier of the Legion of Honor. His Government sent him to Florida and Havana in 1888 to study yellow fever and on his way home he stopped in New York City, whence he returned two years later and established the Pasteur Institute for the inoculation of persons bitten by rabid animals. The establishment at Suffern is a county branch. Dr. Gibier's successor in his work will be his nephew, Dr. G. G. Rambaud, who has long been associated with him.

Dr. Gibier was a man of magnificent physique. He never used tobacco or stimulants. He had become an American citizen, and was a member of the New York Academy of Medicine, the County Medical Society, and the Medical Association of New York; and was the editor of the *Therapeutic Review*. He succeeded in demonstrating the rabies microbe independently. He was greatly interested in psychic phenomena and he wrote a book entitled "Spiritisme: Analyse des Choses," which was translated in English under the title "Psychism: Analysis of Things Existing." He was a voluminous writer. By his will he left $20,000 to the Pasteur Institute, New York. His remains were cremated.

PHILADELPHIA.

Schools for Defective Children.—The Board of Education is considering the feasibility of establishing special schools for children who are mentally defective from organic causes.

Medical Club Reception.—The Medical Club gave a reception Saturday evening, June 9th, to Dr. Abraham Jacobi of New York, Dr. A. Garcelon of Maine, Dr. J. M. Bodine of Louisville, and Drs. Frank Billings and G. H. Simmons of Chicago. Over one hundred of the delegates to the American Medical Association were present.

Jewish Hospital.—The Lucien Moss Home for Incurables was dedicated June 10th. The building is connected with the Hospital proper and is built after the most approved style. Its donor also provided an endowment fund for its support.

Compulsory Vaccination.—The validity of this

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law is to be tested by a case now before the courts. A girl of nine years has been kept out of school for two years because her father will not have her vaccinated. He has had recourse to several expedients, among them petitioning the Legislature, but has failed. *Seventeen physicians* are among the supporters of the man.

Health Report.—Deaths in the city for the week ending June 9th were 409, a decrease of 10 from the previous week and of 69 from the corresponding week of last year. Contagious diseases: Diphtheria, 82 cases, 15 deaths; scarlet fever, 61 cases, 3 deaths; typhoid fever, 51 cases, 9 deaths.

University Appointments. — The following have been made by the trustees: Dr. J. William White, Rhea Barton Professor of Surgery; Drs. Edward Martin and C. H. Frazier, Clinical Professors of Surgery; Dr. R. M. Pearce, Demonstrator of Pathology; Drs. W. F. Hendrickson and F. H. Howard, Assistant Demonstrators of Pathology.

American Laryngological, Rhinological and Otological Society.—The sixth annual meeting was held at Philadelphia, May 31, June 1 and 2, 1900. In his opening address the President, Dr. D. Braden Kyle, stated that chemical anatomy and pathology are of great importance and will in the future rank with pathological anatomy, etc. Examination of the inflammatory exudate accompanying influenza has convinced him that it differs from ordinary exudate and that there is as distinct an alteration in structure as in diphtheria or other specific infections. This differs according to the age of the patient, prior attacks, etc. Patients complain of a thickening of the mucous membrane after an attack and microscopical examination shows the presence of a peculiar albuminous material not unlike amyloid. This is probably manufactured in the blood as a result of the toxin of the disease. The best anesthetic for operations on the nose or throat is a good anesthetizer. Chloroform and oxygen, given by passing the gas through the chloroform, is probably as good as any anesthetic in use. No therapeutic agent is more abused than is the actual cautery in diseases of the nose and throat.

Dr. N. L. Wilson of Elizabeth, N. J., made a plea for early operation in "Bilateral Abductor Paralysis." Cases were cited showing the importance of doing tracheotomy or intubation before it is too late. Not every case should have operation as soon as seen, but the danger should be stated to the patient and early operation insisted upon. In discussion Dr. J. Solis-Cohn said that two cases had been saved by carrying tubes with them which the physicians inserted as soon as called. He would do a tracheotomy rather than intubation as the latter destroys the voice and the tube may be coughed out at any time, thus leaving the patient in as great danger as before. As to removing the vocal cords, which has been suggested, he would prefer to employ tracheotomy and other methods first, owing to the contraction which always occurs in a circular cicatrix adding a risk to the former procedure.

Dr. Robert C. Myles of New York exhibited an instrument for removing subglottic growths. Owing to slowness of the maker the instrument was not yet complete, but the principle was shown. It works by shoving the cannula down over the loop which grasps the growth, thus aiding in its retention.

Dr. Joseph S. Gibb of Philadelphia read the history of a case of carcinoma of the larynx. Total laryngectomy was done and the patient died the fifth day after, a streptococcic infection being present. The source of infection was not clear, as aseptic technic had been as thorough as possible. In future cases he would advise a preliminary tracheotomy in order to anchor the trachea and prevent tugging, and also to accustom the bronchi and lungs to this method of breathing. In the discussion which followed, the general opinion was that in cases which were well advanced a tracheotomy instead of laryngectomy should be done. This puts the affected part at rest and renders the patient somewhat comfortable until death results from the growth elsewhere. In closing Dr. Gibb stated that perhaps he was not so enthusiastic about laryngectomy since the case detailed had occurred, but that he was rather surprised at the pessimistic views of American surgeons. Something has to be done for these patients and tracheotomy at best gives only temporary relief. He believes it is better to remove the growth and give the patient a chance to recover or else to die in a few days from the operation.

Dr. Bernard Berens of Philadelphia presented a paper upon the internal use of suprarenal extract in nasal hydrorrhea. The patient was a woman who had a profuse discharge from one nostril after an attack of influenza, the flow being constant and amounting to from 16 to 24 ounces in twenty-four hours. Digitalin, atropine, and strychnine were given for their general effect, and various nasal sprays were tried with no improvement. An application of a twenty-per-cent. solution of suprarenal extract did some good. Five-grain tablets of the extract were then given, one every two hours. After the third dose the discharge lessened and soon ceased entirely. The dose was then diminished until one tablet was given three times a day, and, finally, discontinued. In a few weeks the discharge again began slightly, but the exhibition of the extract promptly caused it to cease. A report of the last session of the meeting will be given next week.

CHICAGO.

Training School for Nurses.—Dr. Sarah Hackett Stevenson delivered the address at the graduating exercises of the Mary Thompson Hospital Training School for Nurses. There were seven nurses who had completed the course and received diplomas.

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Officers of the Physicians' Club.—The Physi-

cians' Club of Chicago recently held a business meeting and banquet, at which the following officers were elected: Chairman, Dr. William H. Wilder; secretary, Dr. L. Harrison Mettler; treasurer, Dr. L. Blake Baldwin; directors to fill vacancies, Drs. John M. Dodson, M. W. Bacon, and John L. Porter.

Mortality Statistics.—All the principal causes of death, excepting consumption, cancer and nervous diseases, showed reduced figures last week. According to the weekly bulletin of the Health Department, the mortality-rate is the lowest of any week of the year, and, compared with the preceding week, the following causes show the greatest reduction in number of deaths: Bronchitis, pneumonia, Bright's disease, diphtheria, and heart-diseases. The mortality from acute intestinal diseases and typhoid fever remains lower than last year, and the number of deaths from diphtheria was the lowest for months, there being only six deaths from this cause during the week. There was also a marked decrease in the number of deaths from measles, two last week, as against eleven the week previous.

GENERAL.

Tuberculosis in a Sheep.—Parts of a sheep seized in a London slaughter-house recently was the first authenticated case recorded in England of tuberculosis in that animal.

A Correction.—In the abstract of Dr. Woldert's article recently published in our columns, in connection with the American Medical Association meeting, Dr. Woldert was quoted as saying that the Anopheles mosquito is found near the North Pole; the variety of mosquito should have been designated as Culex.

The Xiphopages Twins Separated.—The two sisters, Rosalina and Maria, who were born joined together, a description and illustrations of whom appeared in the MEDICAL NEWS March 5, 1900, have finally been successfully separated by a continuation of the surgical procedure that was begun last winter. In the first operation the osseous structure joining them was cut apart, but the shock was so great that it was not deemed wise to proceed further. The operator was Dr. Alvara Ramos of Rio Janeiro.

Educational Medical Requirements.—At a meeting of the State Medical Council of Pennsylvania, held at Harrisburg June 8th, it was decided that the rule of the Council relative to the preliminary education of applicants for examination before the State Board should not go into effect until September 1st next. This will raise the standard in the educational qualifications and will make it impossible for the Council to recognize the licenses of other States that have not advanced to the same grade. It will also make it necessary to sever the reciprocal relations that now exist between the States of Pennsylvania and New Jersey.

Doctors in a Duel.—It is reported from Paris that on Sunday, June 10th, Dr. Samuel Pozzi, the celebrated obstetrician and gynecologist, fought a duel with swords with Dr. Devilliers. Dr. Pozzi was promptly wounded in the right hand, the sword of his adversary entering for a distance of three cm. beteen the knuckles of the middle and ring fingers. The code of honor was then declared satisfied, the combatants embraced and returned to the city. The little misunderstanding arose from some dispute connected with the management of a club of which Dr. Pozzi is president.

Neurasthenia from Reading Browning.—Professor Benedict, of the Department of Philosophy and Psychology of the University of Cincinnati, announced to his students on May 29th that readings from Browning will be discontinued owing to the great mental strain upon both professor and student. Lighter literature, such as the works of Plato and Aristotle, will be substituted.

The International Medical Congress.—According to instructions from Dr. A. Chauffard, Secretary-General of the XIIIth International Medical Congress, subscriptions to the Congress will not be received after the 15th of July, and the names of subscribers whose subscription is not received before the 15th of June will not appear in the official program. The publications of the Congress will consist of seventeen volumes, one one of which will be sent gratuitously to each subscriber; that is, the volume containing the papers of the Section under which he has inscribed himself. The other sixteen volumes may be purchased at price of 4 francs per volume, or 45 francs for the series.

To Control Consumption.—The Special Committee of the Health Board of Trenton, New Jersey, made recommendations on June 6th for the suppression of tuberculosis, declaring the disease infectious. The health officers are required to disinfect the room and destroy the bedding and clothing of consumptives immediately after death and physicians and hospitals are obliged to report all cases immediately after diagnosis, under a penalty including imprisonment. The department will make bacteriological examinations free of charge.

Amateur Surgeons.—Captain Bratton of the Medical Department at Sogod, Cebu, in the Philippines, has in a report to Surgeon-General Sternberg recommended for future consideration Private Samuel Jones because of his unusual exhibition of skill, judgment and fortitude. A native woman was assaulted by her husband, who cut her in a number of places and by whose violence she sustained compound fractures of the right forearm. In the absence of the regimental surgeon, Private Jones, with the assistance of Private Henry Becker, administered chloroform, and at night, by candle-light, sewed up the incisions in her chest and back. She would not have her arm amputated, so it was dressed antiseptically. Within two days gangrene set in; so

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Private Jones amputated the arm by the circular method. The result was entirely successful.

The American Laryngological, Rhinological and Otological Society.—Officers elected for the ensuing year are: President, Dr. Robert C. Myles, New York; secretary, Dr. Wendell C. Phillips, New York; treasurer, Dr. W. H. Daly, Pittsburg; vice-presidents, for the Eastern Section, Dr. W. S. Renner, Buffalo; Southern Section, Dr. J. A. White, Richmond; Middle Section, Dr. N. H. Pierce, Chicago; Western Section, Dr. J. O. McReynolds, Dallas, Texas. The next meeting will be held in New York in May, 1901.

Obituary.—Dr. Melancthon Storrs died at his home at Hartford, Conn., June 9th in the seventy-seventh year of his age. He graduated from Yale Medical School in 1852 and during the Civil War served as a surgeon in the army. Upon his return he settled in Hartford, Conn., where he has since resided and practised. At the International Medical Congress in 1887 he was one of the vice-presidents of the Surgical Section. He gained distinction as a successful operator in the removal of the trifacial nerve and the restoration of cleft palate.—Dr. Eldridge K. Leonard died at his home, Rockville, Conn., June 13th, from blood-poisoning, aged sixty-nine years. Dr. Leonard assisted Dr. Storrs of Hartford, in the removal of an abscess of the liver of a Rockville boy some two weeks ago and and later took charge of the patient. Dr. Storrs died of blood-poisoning from the operation ten days later.—Dr. William Pierson, for nearly half a century one of the leading physicians of the Oranges, in New Jersey, died June 12th. He had been failing in health for about a year, and had an attack of pneumonia in February, from which he never fully rallied. He was the son of Dr. William and Margaret Hillyer Pierson, and was born in Orange, November 20, 1830. He was graduated from the College of Physicians and Surgeons in 1852, and a year later went to Orange to practise. He at once took high rank as a surgeon. He was recording secretary of the New Jersey State Medical Society for many years, and a week ago was elected president of the society. He was a member of the Essex County District Medical Society, of the New Jersey Academy of Medicine, and consulting surgeon of St. Mary's Hospital, Morristown, and of St. Barnabas' and St. Michael's Hospitals, Newark. He was one of the founders of the Orange Memorial Hospital and chief of its medical and surgical staff since its organization.

The Plague.—The progress of the plague at various points throughout the world still continues ominous; new cases are daily reported at Port Said and at Rio de Janeiro. In India the famine and the cholera have joined hands with the plague in its onward march. No new cases have been reported from San Francisco since June 4th. The Oriental population, numbering over twenty thousand, are not only defiantly opposed to quarantine, but are threatening murder to such of their number as have shown sympathy with the health authorities in their efforts to enforce sanitary measures. Open riots have been threatened in attempts to wreak vengeance on a Chinese merchant who had submitted to the Haffkine treatment, and on an undertaker who had conformed to health regulations in delivering bodies for autopsy. The courts have not sustained the Board of Health in arresting a Chinaman who had broken through the quarantine cordon. Various cities throughout the United States have taken warning from the outbreak in San Francisco and are cleaning up and keeping a sharp eye on the Chinese quarters; both New York and Chicago are conspicuous in this respect.

CORRESPONDENCE.

THE PATHOLOGICAL INSTITUTE.

To the Editor of the MEDICAL NEWS:

DEAR SIR: In the struggle over so great a cause as the freedom of research in psychiatric science, we, for our part, can never suffer the issue to be degraded by personalities. If, therefore, here or hereafter we refer to the struggles of the Pathological Institute of the New York State Hospitals or to the State Commission in Lunacy, it is in the vindication of a cause so precious to us that all personal feeling and animosity are set at naught. If this Institute be mentioned, it represents a principle and a cause; if this Commission or its Committee be spoken of, this also embodies an issue.

With our colleagues in the State Hospitals, of which this Institute is the center of scientific research, we confidently trust that there is now no issue. The Hospitals, it is a source of gratification to say, are in accord with the Institute in its endeavor to accomplish scientific investigations. A minor point of discussion at times between us has been the desire and needs of the gentlemen of the Hospitals to have greater facilities for clinical diagnosis and the use of clinical laboratory methods to follow up the condition of the patients. With this desire, we deeply sympathize. They are absolutely necessary to the actual carrying out of hospital practice. This, however, is the duty of interns; it should not occupy the time of men trained and occupied in the solution of scientific problems. The Institute has endeavored as far as possible to overcome this difficulty by giving instruction to members of the staffs of almost every one of our twelve State Hospitals in nearly every department of the Institute, in order that they might turn this knowledge to account in practical clinical work. (The endeavors of the Institute to aid in this manner the Hospitals in their practical clinical work is being set forth in detail in

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the fourth annual report—now in press—of the Pathological Institute.)

The following are two protests. The first of these, with the accompanying letter, we handed on the 22d day of May, 1900, to the President of the New York State Commission in Lunacy at the Richmond meeting of the American Medico-Psychological Association, a few hours before he read his paper, "The State of New York *versus* the Pathology of Insanity," which had been announced on the official programs distributed a considerable time before the meeting. We did not submit to the Commission or any of its members the second protest; its purpose may appear in due time and suitable place. Inasmuch as the President of the Commission through indirect channels has secured this second protest and has seen fit to make it public in its incomplete form, we present it here with the names of all the gentlemen who up to the present time have signed it, either directly or by cablegram. Many other gentlemen have signed the first protest since it was handed to the President. [Since this date this protest has been endorsed unanimously by the Section on Nervous and Mental Diseases of the American Medical Association at its annual meeting, June 6, 1900.] These names have not been added, for it may be well to have the document appear just as it was submitted to the President at the Richmond meeting with the accompanying letter.

In view of the fact that but five days' time elapsed in the signing of the protest, and many gentlemen in distant places signed it *ab initio*, either by telegram or without knowledge of the other signatures, it must be held as a rather remarkable expression of sympathy in the struggle for the cause at stake, and would be a recompense for the sacrifices and vicissitudes of this Institute were its doom to be forthwith sealed. And yet such an expression of sympathy is not altogether extraordinary. For the liberty of thought and freedom of research in one of the greatest departments of knowledge is a principle that must endear itself to the hearts of our best thinking men. Disease of the mind is one of the most terrible blights that can befall the human race, and no boon could be more precious to mankind than an effort to add to our power of curing or preventing it, even although the attempt be slight and made in adversity. Hence it is that such attempts should be welcomed rather than opposed and a heavy responsibility must go with the arrest of an organized effort to add a humble share to the progress of psychiatry, an effort builded not without arduous toil and patient struggle.

IRA VAN GIESON.

1 Madison Avenue, New York,
June 6, 1900.

FIRST PROTEST.

NEW YORK, MAY 17, 1900.

Inasmuch as it is well known that the orignial purpose in the foundation of the Pathological Institute of the New York State Hospitals, was the scientific investigation of psychiatry, and that the former attempts of the Hospitals to pursue scientific investigation in the asylum under the direction and control of the Superintendents "produced no results of scientific value in the line of original work." (See Second Annual Report, State Commission in Lunacy, pp. 147—162); and since

We believe that the comprehensive lines of research formulated by the Director of the Institute and his associates are eminently suitable for this purpose and that the work of the Institute is most promising for the progress of psychiatry,

We, the undersigned, therefore deem most unfortunate any effort to interfere with or subvert the scientific work of the Institute, and we furthermore disapprove of any plan to limit the work of the Institute to the Asylums, and put the work of the Institute under the control and direction of Superintendents, and to divert the energies of this research center into routine educational schemes. And, furthermore, we deplore the methods in crippling the scientific activity of the Institute and in depriving it of sufficient maintenance and adequate quarters in the center of the city, by a legislative enactment forbidding the payment of rent.

(Signed)
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WM. H. WELCH, M.D., LL.D.,
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J. H. LINSLEY, M.D.,
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Prof. Path., McGill Univ. Montreal, Pathologist to Government of the Dominion of Canada.
DANIEL LEWIS, M.D.,
President N. Y. State Board of Health.
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Path., Mich. St. Asylum for Insane, Univ. of Michigan, Ann Harbor.
WM. J. HERDMAN, M.D.,
Prof. Nerv. Dis., Univ. of Michigan.
F. W. LANGDON, M.D.,
Prof. Nerv. Dis., Miami Med. Col., Cincinnati.
BURT G. WILDER, M.D.,
Prof. Anat., Cornell Univ.
MORTON PRINCE, M.D.,
Phys. for Dis. of Nerv. Syst., Boston City Hosp.
PHILIP COOMBS KNAPP, A.M., M.D.,
Boston Insane Hospital.
CHAS. J. McKENNA, Ph.D.,
Chairman, N. Y. Section Am. Chem. Soc.
WM. McMURTRIE, Ph.D.,
Prest., Am. Chem. Soc.
WILLIAM W. JOHNSTON, M.D.,
Secretary Amer. Asso. of Physicians, ex-officio.
EDWARD G. JANEWAY, M.D.,
President American Asso. of Physicians, ex-officio; Prest. N. Y. Acad. Medicine, ex-officio.
WM. ROUMAINE NEWBOLD, Ph.D.,
Prof. Psychology, Dean Phys. Dept., Philadelphia.
EDWIN G. CONKLIN, M.D.,
Prof. Biology, Univ. of Penn.
CHARLES W. BURR, M.D.,
F. SAVAN PEARCE, M.D.,
Secy. Section Mental & Nerv. Dis., Am. Med. Asso.
THOS. H. MONTGOMERY, JR., Ph.D.,
Lect. on Zool., Univ. of Penn.
WM. G. SPILLER, M.D.,
Prof. Dis. Nerv. Syst., Phil. Polyc., Asso. of Wm. Pepper Lab. Univ. of Penn.
LIGHTNER WITMER, Ph.D.,
Prof. Psychology, Univ. of Penn.
C. F. CHANDLER, Ph.D., M.D.,
Prof. Chemistry and Director of Chem. Dept., Col. Univ. Prest. (Parent Branch of International) Soc. of Chem. Industry.
J. T. ESKRIDGE, M.D.,
Prest. of State Bd. of Commissioners for the Colorado Insane Asylum.

ACCOMPANYING LETTER.

NEW YORK, MAY 21, 1900.

DEAR DOCTOR WISE—In view of the recent criticism and opposition to the principles underlying the work of the Institute, we have felt that it would be but fair not to rely merely on our own views as to the value of our work. We have, therefore, taken counsel with a number of leading men both in medicine and psychology. From the opinion of these men we cannot think of any changes which at present would aid us in our work. Therefore, we think we are all the more justified in maintaining our position. But if there are any minor details the following out of which would not interfere with the fundamental principles of our work, we are always glad to accept your suggestions.

Yours very respectfully.

(Signed) IRA VAN GIESON.

SECOND PROTEST.

In view of the fact that the Pathological Institute of the New York State Hospitals, founded by Dr. Carlos MacDonald in the year 1896, has been carrying on scientific research in Psychiatry on lines of investigation as worked out by Dr. Ira Van Gieson, the Director of the Pathological Institute and his associates, thus helping the further advance of Psychiatry; and in view of the fact that Dr. P. M. Wise, President of the State Commission in Lunacy of the New York State Hospitals, and Dr. Edward Cowles, Superintendent of the McLean Asylum, Chairman of the Committee appointed by the above named Commission in Lunacy, to sit in judgment and pass sentence on the work and principles of the Pathological Institute, have decided and have actually attempted under the plea of paternal guidance and legislative supply of resources, to interfere, subvert and destroy the scientific work of the Pathological Institute, handing it over to the "superintendency" of New York State Asylum superintendents, and putting psychiatric investigation under "their direction and control," according to the old asylum methods, to do as Dr. Wise insists "what the laboratories have always done in the State Hospitals,"

Resolved, That we, the undersigned, protest most emphatically against such a ruthless act of subverting and destroying a scientific institute of great promise for the science of psychiatry, and condemn the interference with the scientific research work of the Pathological Institute, and protest against the crippling of its methods and principles of scientific investigation, either by forcing it to labor in the old pathways of asylum routine or to become the "handmaid," as the Commitee puts it, of asylum men working at the will and command of asylum superintendents, or to divert its energies into educational schemes; and that we sustain the Patho-

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logical Institute along its present lines of organization, and principles and research.
EDWARD D. FISHER, M.D.,
Prof. Nerv. Dis., N. Y. Univ. & Bell. Hosp. Med. Coll. & Prest. of Amer. Neur. Association.
GRAEME M. HAMMOND, M.D.,
Prof. Nerv. Dis., Post.-Grad. Med. Coll.
E. C. SPITZKA, M.D.
E. L. TRUDEAU, M.D.,
Saranac Lake, N. Y.
J. GEORGE ADAMI, A.M., M.D. & R.S.E..
Prof. Path., McGill Univ., Montreal, Pathologist to the Government of the Dominion of Canada.
J. T. ESKRIDGE, M.D.,
Prest. of State Bd. of Commissioners for the Colorado Insane Asylum.
DR. CHAS. MERCIER, M.D.,
London.
HUGH T. PATRICK, M.D..
Prof. Neur., Chi. Poly., Associate Prof. of Nerv. Dis., N. W. Univ. Med. Sch.
PROF. LUDWIG EDINGER,
Frankfort, Germany.
CARL WEIGERT, M.D.,
Leukenberg Institute, Frankfort, Germany.
JULIUS ARNOLD, M.D.,
Prof. Path. Anat. & Gen. Pathology, Heidelberg Univ.
WILHELM ERB, M.D.,
Prof. Special Pathology and Therap., Heidelberg Univ.
W. FORD ROBERTSON, M.D.,
Director of the Laboratory of the Scottish Asylum.
FREDERICK MOTT, M.D.,
Director of Laboratory of London County Asylum.
A. R. URQUHART, M.D.,
Editor *Journal of Mental Science,* Perth, Scotland.

THE ATTITUDE OF THE STATE COMMISSION IN LUNACY TOWARD THE PATHOLOGICAL INSTITUTE.

To the Editor of the MEDICAL NEWS:

DEAR SIR:—I find, associated with the names of four other physicians, my own cited in the paper published in your issue of last Saturday, attacking the Pathological Institute of the New York State Hospitals and in close proximity to charges of insincerity and duplicity. It is difficult to ascertain, in the mass of diatribe and innuendo which that unfortunate institution has evoked from Dr. P. M. Wise, at what persons these charges are especially aimed. Nor would I under ordinary circumstances find it necessary to defend myself against such charges, were they directed at myself. But, inasmuch as Dr. Wise additionally implies some lack of consistency and courage on the part of those connected with a petition mentioned as having been signed by us, I ask you to grant me space for a correction of such and similar false impressions derivable from the Doctor's remarkable paper. To others I leave it to find a proper characterization for Dr. Wise's procedure of publishing a petition prior to the completion of its list of signatures; as I also leave it to those who prompted a change in its wording to explain the reasons for such. Having had nothing to do with the original framing or later changes, I limit myself to declaring that I signed both petitions with cheerful alacrity, and would not have been deterred from so doing had either been expressed even more emphatically than the first. For example, I would have signed it if it had incorporated a prayer to the Governor for the removal from office of the present medical member of the Commission in Lunacy. Such a petition would speedily obtain more than the five signatures which it is the evident intent to pillory as those of isolated unfortunates too reckless to weigh the charges they endorsed, or too careless to have read over what they were asked to subscribe. Those signing a petition of the nature I suggest would find ample grounds in the record of an official who, without possessing any ascertainable qualifications for his high office, has made it the center of a pernicious activity, and utilized it to betray the interests of a profession to which—nominally at least—he himself belongs. Should the readers of the MEDICAL NEWS feel interested in a relation of the circumstances occurring after Dr. Wise took office, on which this statement rests, I shall feel justified in occupying further and more space than I venture at present to ask for. In the same connection I may be able to convince our colleagues that if the charge of insincerity be applicable anywhere, it is to the plea of economy when advanced by the critic of the Pathological Institute.

More problematical even than the reasons for the Commissioner's economical solicitude, appears his championship of interests in connection with psychiatry of any scientific character whatever, since the basis on which an estimate of his qualifications in this respect could be made is not available. However, this is not a very important question, for it is quite evident from the Doctor's paper that the more earnest his interests, the more meddlesome and demoralizing would his supervision of the work of the Pathological Institute prove. I refer to the statements about the work done formerly at one of our State Institutions, and which I proved to be of a misleading character (sustained therein by all authorities at home and abroad who have touched on related questions) and showed also that the results had been diverted and distorted for "business" purposes of a quasi medico-legal nature.

It had been Dr. Wise's duty to familiarize himself with the real status of the work done at Utica. It surely had been easy for him to do so. If I err not, he was himself in a position to have familiarized himself with that work, and at the very least ought to have become conversant with the real sources of its failure. He might have learned through whom the special pathologist had been appointed, and by whom he was sustained and kept in place in the face of overwhelming criticism. He would not then have presented a petition signed by all or nearly all the Superintendents under his thumb—among whom are most estimable practical alienists and several men of too much intellectual breadth to have been spontaneously overanxious to have signed that document, had they had certain knowledge which was not within momentary reach. On the contrary, he would in all consistency have been compelled to select one of their predecessors as a terrible example, illustrating the

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fallacy of his position and the fallacy of a petition advocating a direct personal control, by the signers of the latter. The work at Utica failed under the domineering influence of the most autocratic superintendent this State has known and under a pathologist maintained in place by him; for as completely was Theodore Deecke the instrument of Dr. John P. Gray, as one man ever has been of another man. Does Dr. Wise wish to use the Institute in like manner? Dr. Wise, by the way, designates that unfortunate pathologist as "a philosopher not a physician." What Dr. Wise intends by this discrimination I fail even to guess. I venture to suggest, however, that a very little of the article commonly regarded as philosophy, nay a modicum of much-abused (not a little so by Dr. Wise) common sense, would have been of service to Theodore Deecke's master, who *alone* was responsible for absurdly interpreting artificial precipitates—as proving "mania and melancholia" to be "manifestations of one and the same diathesis," because manufactured by one and the same erroneous method, by one and the same mistaking pathologist, in one and the same asylum laboratory.

Here was Dr. Wise's ideal of the clinician stepping directly from the ward filled by living clinical pictures to the microscope under which had been placed the prepared section from the deceased subjects who had in life presented such pictures. What was the result? Read the comments of the best critics of the day; "strange views" is the most complimentary allusion they made!

The gracious courtesy with which Dr. Wise states that Dr. Van Gieson may be of unsound mind and even suggests that his case would fill a special clinical pigeon-hole would justify reciprocal courtesies by Dr. Van Gieson, say, in the way of an analysis of narrow characters in places too wide for them, or of red tape-fed barnacles, jealous of their little all; official prerogative by letter of law. But, possibly, Dr. Van Gieson believes such attacks as Dr. Wise makes to leave the man making them in too hopeless a state to render any stimulus of counterirritant useful. For Dr. Wise is in this alternative position: Either he believes what he says, and that Dr. Van Gieson is mentally diseased; in which case he exemplifies the notions of philanthropy and charity to the insane acquirable at the largest State Asylum (Dr. Wise served at the Willard State Hospital) by triumphantly taunting a thus disabled adversary with his great misfortune; or he casts a stigma knowing the statement to be untrue. I prefer to pause here. The reader may draw his own conclusions. Mine may be inferred from the fact that I fail to discover any signs of mental disorder in the assailed pathologist, and that I do not consider it probable that one of his performing power is likely to be affected with a latent taint that Dr. Wise, and Dr. Wise alone, were able to discover. I say this seriously, because it is a serious charge made by the medical member of the Commission of whom the insane are the official wards, and made not in an unguarded moment, nor flippantly, but in a widely-circulated periodical, perused by reflective readers, and in the course of a discussion inaugurated in a paper read before the National Association of asylum physicians. I may, however, express a reflection which must occur to your readers, that if the work at the Pathological Institute is of a high character, as Dr. Wise admits in another place—work which has been and is mainly planned by Van Gieson—it were desirable for Dr. Wise to no longer withhold the name of the clinical form of that investigator's mental "symptom-group"; I should like to know where the article may be obtained. If inoculable I know a few who might profit by the publication of Dr. Wise's secret!

There is one point in Dr. Wise's exposition of the situation in which he is accurate; it relates not to any scientific question, but to that "letter of the law" so resourceful to political and legal combatants not necessarily of the highest order. It is true that the Commission has the directing power over the Institute. But Dr. Wise is mistaken if he believes the interpretation of this clause—which was undoubtedly intended as what it appears to the reasonable, *i. e.*, a courtesy to authority—to rest with him. Science never flourished in a Procrustean bed of the Wise kind; it is with the masters that the interpretation rests, not with those who have not even served their apprenticeship. It is difficult to define a control which is not all control, but there is a practical illustration available which may be taken as involving precedent and principle.

By letter of the law, our President is Commander-in-Chief of our land and sea forces in time of war. But does the President interfere in the conduct of campaigns, hamper admirals by counterorders, disband this brigade in the field, remove that officer while under fire, call truces or break them without previous knowledge and request of those directly involved? If he did, he would justify such a procedure as rumor attributed to Admiral Dewey, namely, his intentionally breaking or avoiding his cable connections with a naval department which it was apprehended might embarrass him by blundering interference in a position sufficiently critical without such. Similarly need Dr. Van Gieson be declared guilty of insubordination when an important interest is jeopardized by ill-timed and inexpert meddling.

No doubt sticklers for the "letter of the law" will justify the claim of Dr. Wise to order special work, even of the "bed-bug exterminator" analysis kind, to which your recent editorial refers. But it would so stultify itself thereby that the aroused sentiment of the profession would drive it to its proper domain of bureaucratic control. When I reflect on the high plane of the work begun and projected in a pure conception of that correlation of sciences so puzzling to Dr. Wise, and learn that through medical politics—the worst form of politics—that work is hampered

and the workers dispirited, I feel an indignation like that of him who sees a clumsy foot crush a delicate mechanism, a rude hand defile a work of art.

I trust your journal will continue to sustain the Institute to whose director it is no reproach that in the kind of warfare forced on him in so ignoble a spirit he does not display the wirepulling adroitness possessed in the opposition. Science and that grade of cunning required in the latter art are rarely, if ever, united in the same "symptom-group."

In conclusion, permit me to anticipate surmises as to possible personal interest in the Pathological Institute of the New York State Hospitals. How absolutely little I have had prior to this date may be judged from the fact that I have never been inside of it. This admission in turn may be utilized as a proof of my unfitness as a critic. But it can be so utilized by those who are unaware that a judgment may rest on the perusal of published results and by such alone.

It is true that the Institute has not yet solved the pathological problems of insanity. It is conceivable that neither it nor any contemporary laboratory may entirely succeed. But it is certainly working in the direction in which all legitimate research seems to be moving. Mention the name of Van Gieson at American or European laboratories, and it will be recognized. Possibly the aptly-worded "methods not matter" criticism, which is made use of by the Wise investigating committee, may be here interjected. Without disputing it, though indeed it is most disputable, it is not well to devise and practice reliable "methods" before manufacturing such "matter" as the "alienists" of the school of which Dr. Wise was a pupil foisted on us?

E. C. SPITZKA.

New York, June 5, 1900.

OUR LONDON LETTER.

[From Our Special Correspondent.]

LONDON, June 7, 1900.

THE INTERNATIONAL CONGRESS OF GYNECOLOGY AND OBSTETRICS — BOYCOTT BY THE LONDON TEACHERS—CASUALTIES IN THE SOUTH AFRICAN WAR—SNARES OF INSURANCE COMPANIES FOR MEDICAL MEN—THE USE OF PRESERVATIVES IN FOOD—LECTURE BY PROFESSOR DEWAR ON "A CENTURY OF CHEMISTRY"—FLORENCE NIGHTINGALE'S EIGHTIETH BIRTHDAY—WANT OF CONSULTING PHYSICIANS IN THE SOUTH AFRICAN WAR—LATENCY OF TUBERCLE BACILLI IN THE TISSUES PRODUCING A RELAPSE OF LUPUS MANY YEARS AFTER RECOVERY.

THE success of the forthcoming International Congress of Gynecology and Obstetrics is seriously threatened by an extraordinary and unanimous resolution of the teachers of gynecology and obstetrics to take no part in it on the grounds that those who issued the invitation have assumed a representative position to which they are not entitled. In reply to a letter addressed to the medical journals making public this resolution, Dr. W. J. Smyly, President of the British Gynecological Society, Dr. MacNaughton-Jones, Chairman of the Organization Committee of the Congress, and Dr. A. E. Giles, Honorary Secretary of the British Gynecological Society and of the Organization Committee of the Congress, explain that the invitation was issued by the British Gynecological Society which is not concerned to defend itself against the opinion of the objectors. They point out that if the names of the Fellows of the Society are not sufficient to correct the opinion that they have wrongly assumed a representative position, the fact that the Permanent Committee of the International Congress of Gynecology and Obstetrics requested the Society to issue the invitation shows that its representative character is recognized abroad. Accordingly, Dr. Robert Barnes, Honorary President of the British Gynecological Society, gave the invitation at Amsterdam in 1899. The manner in which the president of the forthcoming Congress, Prof. A. R. Simpson of Edinburgh, was elected is also objected to. To this the officers of the Gynecological reply that he was nominated at a meeting of the Council on whom the duty necessarily devolved. This controversy is much to be deprecated and no doubt behind it are motives which do not appear on the surface.

According to official returns the total casualties of the British forces in South Africa up to May 12th were 20,108. These are composed as follows—Killed in action, 2322; wounded, 10,701; missing and prisoners, 4549; deaths from disease, 2492; accidental deaths, 54. The sick now in hospital are not included in this list. Of those enumerated as wounded a large percentage have returned to duty. The deaths from disease average 300 a week and form nearly 50 per cent. of the total mortality, so that the number of men in hospital must be very large.

The reputation of the average medical practitioner in this country as a man of business is notoriously bad and he, therefore, easily falls a prey to designing persons. A bait is now being held out to catch unwary ones by a new insurance company. On condition of taking up shares they are appointed medical examiners at large fees. For an insurance of £100, £1.1 is to be paid; for larger sums the amount is greater, rising to £3.3 for £500. When these alluring terms have had due effect it is explained that the doctor is expected to take up shares "which are payable in full on application." Thus, cash would be parted with at once to a company, which does not even profess on its own forms to be registered, in the shadowy hope of professional fees.

At the meeting of the Departmental Committee appointed by the President of the Local Government Board to inquire into the use of preservatives and coloring matters in food, Sir T. Lauder Brunton gave very important evidence. He has come to the conclusion that it is almost impossible to prevent the use of preservatives, but that their use should be strictly regulated. If

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preservatives are not used there is a risk of eating decomposing food. The presence, nature and proportion of the preservative in each article of food should be announced by label or otherwise. Dr. G. Vivian Poore pointed out that besides the positive harmfulness of certain preservatives the negative side of the question was most important, as there ought to be to risk of mistaking fresh for preserved food.

At the Royal Institution Prof. Dewar gave the fourth and last of his course of lectures on "A Century of Chemistry in the Royal Institution." Continuing his account of Faraday's observations, he described the second stage of that investigator's work in the liquefaction of gases. He discovered benzene, which forms the basis of the whole coal-tar industry. His work in organic chemistry received great extension at the hands of Sir Edward Frankland, his successor, the scope and variety of whose researches made him second to none as an experimenter of the modern type. His work was largely identified with organic synthesis and he made elaborate researches on water-supply and on the manufacture of coal-gas. Referring to Dr. Gladstone he said that his name would be remembered for his study of the relation between the refractive index of bodies and their density.

Florence Nightingale, who won world-wide fame by her services to the sick and wounded in the Crimean War and was the pioneer of skilled nursing, has just celebrated her eightieth birthday. She received numberless congratulations, thoughtful gifts and flowers. None was more prized by her than a basket of choice blossoms sent by no fewer than 650 former "Nightingale nurses" from St. Thomas' Hospital and the Notting-Hill Infirmary—nurses trained for hospital and poor-law work through her great gift of £50.000, which a people's gratitude asked her to accept on her return from the Crimea. Accompanying this offering was an album containing a letter of congratulation, expressing gratitude for the benefits which she had conferred on the signatories by creating a noble calling for women. Miss Gordon, the matron of St. Thomas' Hospital and Superintendent of the Nightingale School, made the presentation. Amongst those who signed the latter were two of the original probationers of the School who joined forty years ago, and matrons and nurses from Australia, America, the seat of war, West Africa, India, Canada, Russia, and all parts of the world.

Speaking at the dinner of the Pharmaceutical Society, Sir James Crichton Browne expressed regret that, while a number of eminent consulting surgeons had been sent to the seat of war, a few eminent physicians had not been sent also. The long lists of deaths from enteric fever were nearly equal to those from wounds. The deaths from that disease were mounting up daily out of all proportion to the strictly military casualties which, thanks to Lord Roberts' splendid strategy, were now trifling. Every death from enteric fever must represent four cases of disease which must be causing an enormous disability in the forces. Enteric fever has always been prevalent in South Africa, but the occurrence of the disease at so many Stations, some of them in typically healthy situations, suggested careful inquiry so that precautions might be taken. To say that nothing could be done in the medical treatment was fatalistic folly. There was no disease in which skilled supervision could do more to prevent death and promote recovery.

At the Polyclinic Mr. Jonathan Hutchinson showed an interesting case illustrating the possible latency of lupus germ-cells. The patient was a young woman, aged twenty-nine, who was treated for lupus vulgaris eight years ago. After repeated applications of nitric acid the lupus was completely cured, nothing remaining but a thin, pale scar. This condition persisted for seven years; then two minute spots of lupus-growth appeared at the edge of the scar. This case shows that the tubercle bacilli of lupus may remain absolutely latent for many years. Mr. Hutchinson has observed another similar case in which, after the cure of a lupus-patch by cauterization, the scar remained healthy for thirty years; then a relapse occurred. It is impossible to suppose that in such cases a fresh infection of the subject has taken place, for the recurrence is always close to the scar of the original disease. The bacillus must remain in symbiotic union with the tissues without showing any activity until the vitality of the part, having been lowered by age, illness, or exposure to cold, is liable again to manifest signs of activity.

TRANSACTIONS OF FOREIGN SOCIETIES.

British.

THE WOUNDED IN THE PRESENT WAR—CHANGES IN THE BLOOD IN DISEASE—UTERINE FIBROMATA—LAMINECTOMY FOR PARALYSIS.

AT the May 8th meeting of the Royal Medical Society, TREVES described the wounds as much less extensive and fatal than with the old arms. Vital parts were often pierced without fatal results. Clothing was much less often carried into the body than formerly. Cases of nerve-trunks and bone-shafts pierced, as with a gimlet, with a minimum amount of damage were cited. The bullets from Mauser rifles were retained in 20 per cent. Hemorrhage, except in short range wounds, were rare and usually easily controlled by the soldiers. This was not the case in abdominal wounds at short range. Fractures were more commonly transverse than oblique as formerly, did well if left for a time in the field-hospital, but suffered often from the long transportation necessary. The more serious bone lesions appeared to be in the head of the humerus and about the lower end of the fibula. Injuries of the head often made wonderful recoveries but usually required prompt operation. The abdominal cases left alone recovered in 60 per cent.; operated on, fewer recovered. The shock appeared as the chief symp-

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tom and long transportation as the least favorable condition. The intestinal wounds were usually minute and the impact paralyzed peristalsis. Indications for prompt abdominal operation were as follows: (1) When the case was seen within seven hours; (2) when the transport had been short and easy; (3) when the wound was anteroposterior, above the umbilicus, and the bullet had escaped; (4) when there was extensive hemorrhage; (5) sometimes when the wound was below the umbilicus with hemorrhage and escape of the ball. Contraindications: (1) When the case was not seen within seven hours; (2) when the transport had been long and arduous; (3) when the wound was transverse or oblique and above the umbilicus; (4) when the ball was retained; (5) when the liver and right kidney were involved, because these usually recovered; (6) when the wounds were below the umbilicus, for the same reason.

Surgeon-General Jameson concurred with Mr. Treves in the statement that the field-hospital should be as near the firing line as possible to avoid the damage of long arduous transportation.

At the meeting of the Pathological Society of London, May 1st, WRIGHT in discussing blood-changes said mere enumeration of red and white cells does little good. Bacteria are more important, but they occur in few diseases. The discovery of nucleated cells, myelocytes and normoblasts in pernicious anemia is important, but after all the present methods of blood-examination are not of definite diagnostic value apart from other symptoms. Some years ago he thought he had found the cause for hemophilia in an alteration in the number of polynuclear white cells in children. Later he abandoned his conclusions on proving that 40 per cent. of all children had the same condition. The rapidity and completeness of coagulability were new and important data. In hemopysis and aneurism if we could raise them much good could be done. Starvation will not do it. Hearty eating often does. Next came estimates of the lime salts as an index of the coagulability. Increasing the salt hastens the rate. The number of white cells also has a similar effect, realized by giving thymus-gland tabloids. Alkalinity is another important factor, as is the amount of agglutinin. Much of it was favorable for the course and prognosis in typhoid and some other fevers.

Dr. Lorrain Smith said he had measured the total quantity of blood, of oxygenating power, and total amount of hemoglobin per unit of weight to the individual. The study of anemia on this method showed that there were two types —that of chlorosis in which the total oxygenating power is normal, while the volume is increased, and that of anemia due to hemorrhage, in which there is really loss of hemoglobin.

Drysdale pointed out that the red and white cells vary independently of each other. Hence there is little value in making counts only of either or both.

At the meeting of the Obstetrical Society of London, May 2d, WILSON claimed both a casual and often a causal relation between fibromata uteri and organic disease of the heart. The cardiac lesion may be caused by the uterine or depend on the same factors. Circulatory pressure-effects might directly damage the heart or interference with the ureters might set up renal, then cardiac, trouble. Anemia due to menorrhagia might be a source of disease. Cardiac hypertrophy occurs in pregnancy and might in fibroids and by the persistence of the trouble go on to dilation. The presence of such cardiac lesions contraindicates ergot, but usually strongly indicates operation at an early date to prevent the cardiac element from becoming fixed.

At the Edinburgh Medico-Chirurgical Society, May 2d, COTTERILL showed a patient on whom he had done laminectomy for paralysis of two years' duration. Caries had begun when the patient was thirty-six years of age; complete paralysis, both motor and sensory, was present as far as the anterior superior iliac spine; the deep reflexes were exaggerated, the superficial ones various; two large bedsores were present on the buttocks; cystitis and incontinence of the bladder and rectum appeared. The laminæ and spines of the eighth, ninth and tenth dorsal vertebræ were removed. Pressure due to exostoses had narrowed the canal to the diameter of a slate pencil. The lumen was restored. Sixteen days after operation all symptoms began to improve, sensation, motion, continence returned and cystitis disappeared. One year after it he was walking with canes and still gaining.

SOCIETY PROCEEDINGS.

AMERICAN MEDICAL ASSOCIATION.

Fifty-first Annual Meeting, Held at Atlantic City, N. J., June 5-8, 1900.

SECTION ON DISEASES OF CHILDREN.

(Continued from page 944.)

SECOND DAY—JUNE 6TH.

Infant-Feeding.—The morning session was devoted to the consideration of infant-feeding and to diseases of the digestive tract.

Dr. A. L. Sherman of New York demonstrated a "home milk modifier." This consists of a graduated glass measure having seven sides or panels. One panel is graduted for ounces, the other six have various percentage formulæ. Nothing is more accurate except laboratory modification, and the simplicity of the method is its valuable point.

Typhilitis, and Appendicitis in Children.—Dr. J. N. Byrne of New York read this paper. Few cases of typhlitis or perityphlitis are primary. Inflammation of the appendix is always accompanied by more or less inflammation of the peri-

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toneum. Foreign bodies do not play the rôle in the causation of appendicitis that they were formerly supposed to do. The infrequency of stricture of the appendix before the twentieth year of age raises the question of its later frequency being due to inflammation or to physiological retrograde changes in the organ.. Evidence points to the latter. Many cases of intestinal trouble, "biliousness," etc., are due to disease of the appendix.

Milk in Berlin Hospitals.—Dr. Louis Fischer read a paper on "Milk-supply and Control at the Kaiserin Friedrich Hospital by Drs. Adolph Baginsky and Paul Sommerfeld, of Berlin." The arrangement of the stables, care and feeding of the cows, etc., was given in detail. The hospital now has a stable of its own as well as controlling several milk-dealers. Reliance is placed on chemical examination of the milk as a test. The cows that are fed on dry fodder, potatoes, slops, etc., are apt to cause diarrhea and milk from such cows has a toxic effect upon the children using it. The milk is filtered and put in cans in the dairy adjoining, drivers and other employees not cleansed for the purpose are not allowed to enter this building. All cows are tested by tuberculin. At the hospital the sole duty of one maid is to prepare the milk for the infants. Both the full and mixed milks used are sterilized in bottles for thirty minutes at a temperature of 100° to 101° C. The writers do not approve of the criticism against the sterilization of milk. If Barlow's disease comes from sterilized milk it is from that which has been kept for a length of time in storage. Pure milk does not agree with dyspeptic children and dilution is absolutely necessary.

Infant-Feeding.—This was the subject presented by Dr. Alexander McAllister of Camden, N. J. Our present knowledge of chemistry has failed to produce a synthetic breast-milk, advance being needed in this direction. A plea was made for a closer adherence to Nature's methods. Two conditions must be met—an alarming disinclination of mothers to nurse their babies, and the clamor for supremacy in the sale of artificial foods. Babies nursed by mothers may or may not be as fat as those reared artificially but they are robust. Cow's milk furnishes many chances for infection. If the mother cannot wholly nourish the child, partial breast-feeding is of great value even if only once in twenty-four hours. Before giving up and adopting other means of feeding, stimulate the mother's secretion as much as possible, remembering that nutritious food is a better galactagogue than drugs. When cow's milk must be used, modification is *necessary* but clean milk is *imperative*. Attention to the getting of clean milk is much more valuable than copying various formulæ for modifying it.

Infant-Feeding: Accidents and Incidents.—Dr. W. P. Northrup of New York presented this paper. He said accidents may arise from the very exactness used in the feeding. The modifying of milk for the use of infants places a great responsibility upon the physician, and he must remember this when adopting his formulæ. A case of scurvy followed by rickets was detailed. This was due to the formula not being changed for months at a time. He thinks that many babies are given milk which is behind their age in its strength. His ambition is to gradually increase until full milk is used at eight to ten months of age. Fat, sugar, and proteids should be advanced together.

The discussion on infant-feeding was opened by Dr. Henry D. Chapin of New York. He stated that what was gained biologically was lost chemically in the sterilization of milk. In hospital use he has abandoned sterilizing, as the infants fed on such milk invariably get thinner. Percentage feeding has not solved the question and physicians have gone too far in its use. The most important question is that of getting the fats and proteids in a form which can be digested by the infant. The conclusion that the less manipulation given cow's milk the better is the result experienced. While laboratory feeding is an advance, its disadvantage is the excessive amount of manipulation involved. After being separated the fine emulsion can not again be obtained by mixing. The plan now used by Dr. Chapin is as follows: He insists on the milk being bottled at the farm and delivered to the family in the original bottle. If proper cleanliness is observed at the farm (and this should be looked after) the milk is started absolutely clean and is not manipulated. The milk is allowed to stand in quart bottles until the cream rises, nine-tenth of the butter fat coming to the top. The distinct line of the cream should be looked for to prove that no milk has been put in since the bottle was first filled. By means of a cylindrical ounce dipper on a long handle the contents of the bottle are then removed, beginning at the top. The first 9 ounces from the top of a quart bottle contains 12 per cent. butter fat, 4 per cent. proteids, and 4 per cent. sugar. The first 15 ounces contains 8 per cent. butter fat and the same percentage of proteids and sugar. Many samples have been assayed and give the above proportion with great uniformity. In this way but little manipulation of the milk is required and a percentage which is accurate enough is obtained. As the mother can do this, it is of great importance. Rules have been made too abstruse, a professor of physics and chemistry and a laboratory being necessary to carry them out. Hence, mothers get disgusted and buy artificial foods. After a trial of all diluents gruels are preferred. These are dextrinized in nearly all cases. Instead of saying, 'so much fat' should be given, watch the stools. Attention has been given to the wrong end of the baby.

Dr. Victor C. Vaughan agreed that the very fine modifications of milk are often unnecessary and even unjustifiable. Sterilization and Pasteurization alter milk to some extent. The chief proteid changed by a high temperature is nucleo-albumose. The point is not definite, at 158° F.

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it is little changed but at 160° F. the change is quite marked. Diarrhea is often due to failure in sterilization. The colon bacillus is variable in virulence. Again, the bacillus is destroyed but its toxin is not, a temperature of 356° F. having no effect on the toxicity of some samples. Hence, no amount of sterilizing will render such milk fit for infant-feeding.

Dr. William L. Stowell stated that bad results were at times due to a failure to distinguish between the therapeutic effect and the nutritional value of modified milk. The former may be kept up and the latter lost sight of in practice. He prefers to use whole milk when the infant is six month of age. Attention was called to two points: (1) Infants can and will digest large quantities of casein; (2) many physicians do not modify milk rapidly enough to keep up with the age of the child.

Dr. A. Jacobi said that if any one had come to the session with the impression that he could learn positively how to feed children he must be disappointed, for different advices had been given by the speaker. He advised each physician to use his own brains, as it is wonderful how handy brains are in the practice of medicine. Most practitioners are diluting with cereals and this is the best method. Nine out of ten babies cannot digest pure milk. When milk is once separated it can never be made into milk again. Mother's milk is not exactly the same at all times yet infants thrive on it. Hence, there is some mistake in the statement that modified milk must have just such a percentage on such a day. Nature is more generous than are doctors' theories. A normal baby will pass out undigested material when fed on its mother's milk. Good has been done by boiling, sterilizing, etc., but we are overdoing our theories.

Dr. J. P. C. Griffith believes that sterilized milk is capable of producing scurvy, yet he believes in the process under certain circumstances. He has also seen four cases of scurvy due to a faulty use of laboratory milk, but he is a great believer in the use of laboratory milk. Judgment must be used.

Dr. Henry Koplik said that a distinction must be made between healthy children and those that are not quite well. Milk is easily contaminated and mothers should be taught to keep it clean. He believes it is, and always will be, a human impossibility to get cow's milk that is absolutely clean. For a diluent he does not use cereals in health but water. If the child be sick an effort should be made to use something that will agree with it.

Gastro-intestinal Hemorrhage in New-Born.—Dr. E. H. Small of Pittsburg reported a case of this condition. The delivery of the child was by forceps. When thirty-four hours old there was a discharge of blood from the mouth and rectum, and at intervals of a few hours three other discharges from the rectum occurred. The nature of the affection was discussed, the fact that more cases occur in institutions than in private practice pointing to an infection as the cause. There are probably changes in the blood or vessels or both. The differential points between this affection and hemophilia were indicated.

Stools in Diarrhea of Infants.—The following types were discussed, the green, brown or muddy, leaden, whitish-gray, mucous, and the dry pasty. In the treatment, hygiene is of vital importance. In addition to this, treatment falls under three heads: Elimination, disinfection and feeding.

Contagious Diseases.—This, the regular topic for the afternoon, was then taken up. "Shall Children be Kept from Measles and Exanthemata" was the subject of the paper of Dr. C. F. Wahrer of Fort Madison, Iowa. It is best to quarantine against some diseases, because their mortality is great and the tendency to acquire them diminishes with age. Such are scarlatina, diphtheria, variola, pertussis, etc. In the case of measles the disease is less severe in childhood and more severe after puberty. Epidemics among adults in camps, mines, etc., are productive of great harm. Hence, it is not always best to keep children from being exposed to the disease. It should be guarded against in hospitals, crowded tenements, etc. There is no good reason why healthy children above two years of age should not be exposed.

In the discussion Dr. Griffith did not agree with this view. In one large foreign hospital the deaths from measles were more than from either diphtheria or scarlet fever.

Dr. L. Fisher would not allow children to catch measles if he could prevent it. He finds serious complications, as otitis media and empyema, to be too common to warrant this. Laryngeal stenosis is a complication that is fatal in many cases; 20 of 25 cases he intubated ended in death.

Dr. J. F. Schamberg stated that the mortality from measles was greater than was generally supposed. In Philadelphia during the past year it was greater than the mortality from diphtheria or scarlet fever.

Roetheln.—Dr. Henry Koplik of New York City read this paper. He considered it from the standpoint of a distinct affection apart from measles and scarlatina, and its differentiation from these exanthemata. Rötheln has been doubted as an entity by some writers, but it can be proven to be such. It resembles measles and is often mistaken for that disease. The eruption appears on the face as a papular rash of deep rose color, as a rule discrete, with crescentic outline. It spreads rapidly over the body, its appearance on the buttocks and thighs being regarded of diagnostic importance. In from a few hours to a day it fades. A real desquamation has never been established by Dr. Koplik. Unlike measles, Rötheln is not a disease of the mucous membranes, and the cough, coryza, etc., of measles are never seen. The conjunctiva is injected as in grip, but there is no photophobia. Children do not generally complain of the tonsils, which are injected, but adults do. As to the

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soft and hard palates, streaks and spots of eruption have been reported as occurring in these locations during the disease. He has also observed this in epidemics, but the point emphasized is that these spots are absolutely not characteristic of Rötheln and hence of no diagnostic importance. The red spots with bluish-white center characteristic of measles are absent so the buccal mucous membrane is of negative diagnostic value. There may not be any temperature-rise in Rötheln. If there be a rise it is generally at the outset of the disease; whether the eruption be out or not. The temperature may drop while the eruption is still present. A study of the lymph-nodes was made in 12 cases. The glands of the neck, axilla, and groin were distinctly enlarged. In rare cases of measles this also occurs, but so rarely as to make them of diagnostic importance in Rötheln. This enlargement of glands often persists after the eruption has disappeared and sometimes lasts for weeks. The spleen is not enlarged.

In discussing this paper Dr. Griffith said he had repeatedly seen desquamation in cases of Rötheln. He does not find the temperature-chart characteristic, although the glands are enlarged more than in measles; the cervical glands are often enlarged in the latter and are found if looked for.

Dr. Koplik said that he ruled out the cervical glands when making the diagnosis of Rötheln, referring only to those of the axilla and groin which are diagnostic. He has never seen severe complications with the disease. He isolates cases, letting the children run in the street as soon as the rash disappears in summer, but keeping them indoors for a week in the winter.

Scarlet Fever Rash.—Dr. Jay F. Schamberg of Philadelphia gave the results of clinical and pathologic study of this condition with especial reference to its origin and the character of its desquamation. The clinical appearance of the rash of scarlet fever was described as being made up of generalized erythema, punctated spots, "goose-flesh" papules, due to inflammation instead of contraction of the hair-muscles, and miliary vesicles. These vesicles are present in the vast majority, if not all, of the cases of scarlet fever, sometimes being so marked as to suggest some other disease. In some cases the vesicles are not seen with the naked eye, but are found in large numbers by the aid of the microscope. The vesicles appear more often in severe rashes and are more copious in cases of intense eruption. The intensity of desquamation is directly proportionate to the amount of vesiculation present. Too much stress has been placed on desquamation as a diagnostic point in diseases, the process only being the termination of some other stage. The persistence and character of the desquamation is of more importance than is its mere presence. Desquamation is the result of the vesicles pushing off the epidermis. The conclusions reached are: (1) The color of the rash varies in individual cases. Occasionally it is scarlet, but more often a dull red with an element of brown present. (2) The rash consists of punctæ, vesicles, and "goose-flesh" papules. (3) Vesicles are more common than ordinarily supposed. (4) Desquamation begins at the summit of the vesicles and enlarges.

In discussion Dr. Wahrer said that descriptions of rashes were very good, but it is hard to give an idea of them to others. Clinical experience is worth all descriptions and is the only way one could learn to differentiate.

Dr. Schomberg in answer to questions stated that he had examined the glands in 100 cases of scarlet fever and found enlargement to be constant. He has also noticed white spots on the gums in measles, but they occur as well in scarlet fever. He thinks they are really a desquamation of the epithelium which is whitened by inltration. They are not diagnostic of measles.

Fetal Ichthyosis.—Dr. Annie S. Daniel of New York gave a demonstration of a specimen of this condition with complete pathologic and bacteriologic examinations. The child was born of a healthy Sicilian peasant woman, labor occurring two weeks before it was anticipated. The woman had had four normal pregnancies and one abortion. The child weighed five pounds, cried constantly, could not suckle, and died when twenty-seven hours old. Pathologically the same lesions were present that have been reported by other observers. No cause for the condition could be found.

Fetal and Infantile Typhoid.—Dr. John Lovett Morse of Boston read this paper. It has been proven that the typhoid bacillus can pass through an abnormal, and possibly a normal, placenta, and thus infect the fetus. The lesions in fetal typhoid cases are general rather than local, as might be inferred from the nature of the infection. This being through the blood primarily it is of the nature of a septicemia from the beginning. This septicemia accounts for the large mortality of fetal typhoid. Infection of the fetus does not necessarily follow infection of the mother. The intestine of the fetus is not functionating, hence, the classical lesions of typhoid are not found in it. Regarding infantile typhoid there is no obvious reason why the disease is more rare during the second year, but such is the case. During the first year when the infant is nursed, chances of infection are less, but chances seem greater during the second year when milk is used in large amounts. However, the disease is either uncommon or is unrecognized. It is hard to differentiate between the lesions of enteritis and typhoid. Pathological studies and tests by serum reaction should be carried out in large series of cases to determine the frequency of typhoid in infants. The symptoms are essentially the same as in adults except that they are lighter. The mortality is greater.

In the discussion Dr. J. C. Wilson emphasized the necessity of using the modern methods of research to find the pathological lesions in certain clinical conditions. He finds the mortality

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of enteric fever to be decidedly less in children, at least in cases where the symptom-complex justifies the diagnosis of enteric fever. Many cases can be decided only by the application of modern methods of investigation, especially the serum reaction. He recognizes three types of the disease, the fetal, the infantile, and the adult. One difficulty in recognizing the infantile type comes from the fact that this type occurs at times in adults, and the adult type is occasionally found in infants.

Dr. Griffith believes typhoid fever is much more prevalent in infants than is generally thought. The mistake is made in looking for the adult type when the infantile form is different in its symptoms. More cases in infants will be found since the serum reaction has come into use. Infantile typhoid cannot be called a rare disease now. He finds the mortality less than in adults.

Dr. Morse stated that in childhood the mortality was less than in adults, but that in infants under two years of age statistics and his own experience showed a higher mortality. Present data as to the frequency of the disease in infants are unreliable. Research needs to be made.

THIRD DAY—JUNE 7TH.

Diseases of the Blood and Circulation.—Dr. Leopold F. Haas of New York City reported two cases of diabetes mellitus in children. The patients were a girl of nine and her brother aged five years. Both had adenoids and enlarged tonsils. There was a family history of tuberculosis on both the paternal and maternal sides. The girl had peliosis rheumatica in addition to the diabetes. The boy had been run over by a bicycle before the disease appeared. A possible etiological relation between peliosis rheumatica and diabetes mellitus was suggested. The history of tuberculosis was also considered significant.

In the discussion Dr. Stein stated that the pathogenesis of the disease was not so obscure as supposed, it being an affection of the nervous system, especially of the brain. It has nothing to do with diabetes mellitus in older persons. Operative procedure is the best treatment, spinal puncture, trephining, etc.

Dr. Lautenbach stated that he hears adenoids mentioned in every Section. They seem to be indicative of some systemic condition. They might serve a useful purpose in diagnosis, etc., if we only knew what they meant.

Scorbutus.—Dr. Henry E. Tuley of Louisville, Ky., read a paper entitled "Purpura Hemorrhagica or Scorbutus: A Clinical Sketch." The case was clinically a typical one of scorbutus, but also had symptoms of purpura hemorrhagica. The child had been fed at the table and could hardly have had true scurvy. He thinks the term purpura hemorrhagica should not be used as the affection so-called is a modified form of scorbutus.

Dr. Griffith, in discussing the paper, said that purpura is just such a word as jaundice and the diseases in which it occurs shade into each other. Sometimes the rash is purpuric; again it is erythematous or urticarial.

Value of Blood-Examinations for Diagnostic Purposes.—This was the subject presented by Dr. J. Brandeis of New York. Diseases were divided into three classes, *viz.*: (1) Those in which blood-examination is essential to a diagnosis; (2) those in which it is an aid to diagnosis; (3) those in which it helps determine the prognosis.

In the discussion Dr. Morse stated that many diseases had been given which were not common to children and the same conclusions would not answer owing to the difference of blood-diseases in children. The different forms of corpuscles, especially the nucleated, do not have the serious significance in children that they do in adults. Leucocytosis also occurs much more easily in children. In cases of serous pleurisy in adults he has found no leucocytosis and thinks the sign is of no value.

Iodine Reaction.—Dr. Louis Fischer read for Dr. S. Weiss of Vienna a paper on the "Differential Diagnosis Between Abdominal Typhoid and Appendicitis, by Means of Iodine Reaction: Report of Case." The solution used is Ehrlich's Iodine gum solution:

℞ Iodi sublim..... .....1.0
Kali jodati..... .....3.0
Aqua distill..... .....100.0
Gummi Arab. q. s. ad consistentiam syruposam.

A drop of blood is pressed between cover-glasses, to get as thin a film as possible, and allowed to dry in the air. A drop of the solution is then added to the slide and the specimen is ready for examination. The blood from a healthy person gives the following reaction: The red corpuscles stain a dark-yellowish color, the leucocytes being a lighter color and their nuclei appearing as lemon-colored, very glossy bodies. Normal blood also contains brown granules (extracellular glycogen). If suppuration be present in the body the blood gives a different reaction. The extracellular glycogen is considerably increased. The leucocytes assume a brownish hue of varying intensity, being a dark reddish-brown in some cases. This coloration may be general or in fine or coarse granules which are plainly distinguishable from the remaining yellow cell-bodies. The probability of a connection between this reaction and suppurative processes in the body is based upon the following facts: (1) The reaction disappears in a few days after the incision of an abscess; (2) the reaction begins at the same time as does the disintegration of infiltrated tissue, *i. e.*, the formation of an abscess. The reaction does not appear if inflamed infiltrate undergoes resorption instead of suppuration. The iodine reaction affects almost exclusively the polynuclear neutrophiles, never appearing in the eosinophile. Notes were given of a case simulating typhoid fever. The iodine reaction gave the pus

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reaction. Operation revealed an appendical abscess, which was evacuated.

Hydrencephalocele.—Dr. Carl Beck of New York reported three cases of hydrencephalocele. In one the skiagraph showed the nasal bones separate from the frontal and pushed down. Two of the three are living after operation. The prognosis in hydrencephalocele is getting better under thorough asepsis.

Heart-Disease in Children.—Dr. Frederick A. Packard of Philadelphia read a paper upon "Antecedents of Valvular Heart-Disease in Children." The paper was based upon the analysis of the previous illnesses in 75 cases of endocarditis in childhood, with especial reference to the various infections. In 3 of the 75 cases no history of previous illness was obtainable. Of other diseases there was a history of rheumatism in 34 cases, chorea in 18, scarlet fever in 11, cerebrospinal fever in 2. His conclusions are that in many instances endocarditis must be attributed to such minor affections as coryza, skin affections, gastro-intestinal disturbances etc., instead of to the diseases more commonly supposed to be causes. A careful examination of the heart should be made after the occurrence of these diseases, as well as after the severer affections.

School Children.—The regular topic of the session, school children, was then taken up. Dr. E. Stuvey of Fort Collins, Col., presented a paper on "Symmetrical Development, or Does Our Present School System Develop the Highest Powers of the Child?" The physical, intellectual, and moral powers of the child should be developed at the same time. Teachers should have a more thorough training before beginning their work. They should understand the physiology of the brain and the development of the mind. There should be more enthusiasm in the work of teaching and less routine. Too many studies are given children at one time. More attention should be given to object-teaching, outdoor work in this line being of great value, mentally and physically. More time should be devoted to manual training. School sessions and recitations are generally too long and too many examinations are given. Whipping has been superseded by cruel and dangerous punishments.

School Break-Downs.—This was the subject presented by Dr. J. Henry Bartlett of Philadelphia. Reference was made to an article in a first-class monthly in which the writer claimed that 16,000 children in five large cities had been compelled to leave school in one term because of breaking down in health. The belief that this result, as claimed by the writer, is due to the present school system is unwarranted. Causes other than school-life which play a large part in ill-health, causing the child to leave school were considered. The principal ones are diet and haste in eating, lack of exercise, and the hours of sleep. These all occurring during the developmental period cause deterioration in the child's condition. Whatever the school strain may do, it has a host of allies. In some cases the school may be a safety-valve where the evil effects of some of the other influences may be set aside. A thorough study of the developmental processes needs to be made to get at the bottom of what the writer of the article in question calls a crime. The school system is good in many ways; too many examinations, etc., are simply an overdoing of a principle and are not essentially a condemnation of the principle itself.

Care of the Ear.—Dr. Louis J. Lautenbach of Philadelphia read a paper upon the "Care of the Ear in School Children." Statistics show that 7 per cent. of pupils have deficient hearing in both ears and from 13 to 25 per cent. in one ear. Young children are especially liable to ear-disease, because the Eustachian tube is open. An examination of the nose and throat is necessary when the ear is affected. A systematic examination of the hearing of all school children should be made. In this way the parents are helped and the physician gets to see the patient earlier and is more likely to be successful in treatment.

In the discussion on school children Dr. Wahrer said that the physician lacked the cooperation of the municipal authorities in dealing with this question. He has little sympathy with kindergartens in the way of getting children to work earlier. They are sent to school too early now and are taught too much in the beginning. He would abolish competitive examinations. Some children can do work easily and win prizes and first place without trouble. Others cannot and feel it a disgrace. Not every person can be a doctor, lawyer, or preacher. Educate children according to their capacity and ability to use knowledge. Every child should be examined by the family physician before it is sent to school.

Dr. E. E. Graham said that he doubted if developmental processes should be made the basis of the break-downs in school schildren. Developmental processes are natural and should not be blamed. Put the blame where it belongs—on the school. The system of fortnightly grading was condemned. The strain on medical students when examination comes but once yearly was cited and compared with these examinations of children every few weeks. The strain coming so often and on young children is productive of evil results.

Dr. Sutherland of Nebraska thinks the evils of our school system can be overcome, partially at least, by instituting two processes, *viz.*: (1) Make the qualifications of teachers greater. (2) Allow them more latitude in their function, by both the parents of their pupils and by the school board.

Dr. Allport of Chicago spoke regarding the system of examination of the eyes and ears of pupils which he has originated. This system is now working well in Chicago and is being adopted by other cities. He has never known a school board to refuse its adoption when it was intelligently presented. The tests are thoroughly unobjectionable to both pupil and parents. They are not obligatory. When a defect is discovered

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the pupil need not go to any definite physician nor to any at all. The tests cost practically nothing, but $200 for Chicago with its 250,000 pupils. About 33 per cent. of children have defective eyes and 50 per cent. need treatment for eyes or ears.

Dr. Rosenthal stated that medical inspection in Philadelphia extended only to acute and contagious diseases. The family physician has great influence with parents and should not criticise medical inspectors, which has been done.

Dr. Lautenbach commended the German school system. He thinks good results will come from physicians working to have teachers given more power. He would not recommend having physical examinations under the control of school physicians, as they would be antagonized by the profession and by the public.

Liquid Air.—Dr. A. Campbell White of New York gave a demonstration of liquid air and spoke of the results of a year's use of this material in medicine at the Vanderbilt Clinic. A case for carrying the air was shown. In this it will last for several hours. It is now used as a spray and in a bulb as a cautery. It will not kill germs, but suspends their activity for a long time, they being brought back to normal only with great care. The question is whether this temporary suspension of vitality will not enable the body to completely destroy them. The effect of liquid air on human tissue is to cause a temporary local anemia followed by a great hyperemia If the cold has been sufficiently intense, a slough follows. Pain is not caused by its application, only a slight tingling being felt. Anesthesia lasts for some minutes. In an operation recently done for correcting a deformed hand a perfect result was obtained, primary union being secured. When the substance is applied over the spinal ends of nerves in neuralgia or herpes zoster, the pain is at once stopped. Small ulcers may result from this in old people of low vitality. Boils can be aborted by completely freezing and pricking in several places. It is the best form of treatment for carbuncle. Spray is introduced into the openings and then externally. A dry absorbent dressing is applied as very free bleeding follows. The good effect is thought to be due to the extreme hyperemia which follows. In the clinic it is used in place of the cautery almost exclusively. Liquid air greatly relieves the pain and odor of cancer and it is thought that early treatment may cure epithelioma. Experiments are now being made to determine the value of the vapor in the reduction of temperature. Results from the external uses mentioned have been very gratifying during the year it has been in use.

FOURTH DAY—JUNE 8TH.

Athrepsia Infantum.—Dr. Louis Fischer of New York read a paper upon "Athrepsia Infantum; Diagnosis and Treatment." Improper assimilation of food causes a lowering of the vitality of the child. The greatest number of cases occurs in bottle-fed children. Whenever a nursing child ceases to gain in weight, examination of the breast-milk should be made and cow's milk substituted, if necessary. The best form is not sterilized or Pasteurized milk, but good, clean raw milk. Aim at sterilizing cow and stable and utensils rather than the milk. Constipation is a great trouble in athrepsia and changing to cow's milk often stops this. The dried albumen of egg has given good satisfaction as an accessory food in these cases.

Intubation.—The Secretary read for Dr. Joseph Trumpp of Munich a paper upon "Intubation in Private Practice, and its Perfection." Statistics from 55 operators in Europe and America give 5470 intubations with a recovery rate of 35 per cent. before antitoxin was used and of 82 per cent. since its use. In Europe there is a decided opposition to the practice of intubation outside of hospitals. The writer argues for this, however. Previous practice should be made upon the cadaver or on animals. Explain to the parents the differences between the bloodless and bloody operations, meaning by the latter tracheotomy. As to the caliber of the tube, if there is no special indication for a smaller one, use that which will just pass. Rubber tubes are preferred instead of metal.

Injuries Due to Intubation.—Dr. Alexander Klein read for Dr. Janos Bokay of Budapest a paper upon this subject. Injuries are classified as follows: (1) Those which occur during intubation; (2) those caused by the presence of the tube; (3) those due to extubation. In 1200 cases only 4 resulted in formation of a false passage. Such cases are usually fatal. The sitting posture is advised for intubation.

In the discussion of these papers Dr. Welch of Philadelphia said that the safest place for intubated patients is the hospital. He prefers metal tubes, as they are not so liable to receive a deposit. He cited a case in which the tube was pushed down when removal was attempted. As the child was not suffering tracheotomy was not done and after a time the tube was coughed up. He is not so much in favor of antitoxin as are some physicians and thinks the statistics regarding it and intubation are not reliable and fair. All patients in the municipal hospitals receive antitoxin, but its results have not come up to his expectations. Their mortality in intubation cases is 58 per cent.

Dr. Rigg of Pittsburg finds that the best way to lessen the danger of intubation in private practice is to train a competent nurse in the use of the tube and to keep her in constant attendance upon the patient This makes the safety approach that of hospital cases. His results from intubation are not so satisfactory, as he finds that the membrane usually extends below the tube. The most important question in antitoxin treatment is that of its early use.

Dr. White of New York said that not so much reliance should be placed on statistics regarding

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antitoxin, as epidemics might be mild or severe. Each physician can judge of its effect for himself by seeing cases in which it is not used and those in which it is employed. Cases are benefited by intubation even although the membrane extend below the tube, as the greatest difficulty in breathing comes from the upper part. The dyspnea from the membrane low down is more like that of pneumonia and not so urgent.

Dr. Fischer uses antitoxin as he would any drug of which he knows the effect. The first dose is 3000 units, repeated in twenty-four hours, if necessary. He advocates the use of rubber tubes and condemns the practice of forcible extraction by external pressure.

Dr. Rosenthal adheres to O'Dwyer's methods and tubes. In every case in which he used rubber tubes the child died. Italians always require two or three numbers higher than the scale would give. He advises large doses of strychnine in cases of prolonged intubation. In extubation do not try to find the tube. Pass the instrument along the finger and into the tube as if it could be seen and grasped exactly. This method will always succeed. Use no pressure, but withdraw instantly when the tube is entered. He always cuts off the silk and allows the child to lie as it pleases. Cases of croup in measles are very severe.

Dr. Welch said he had lately seen many cases of croup in measles and that they are very fatal. The question is whether it is diphtheritic. The Klebs-Loeffler bacillus is not always present. The croup is not necessarily due to the formation of an exudate, but in many cases seems to be caused by intense congestion of the mucous membrane.

Surgical Circumcision.—Dr. Ferd. C. Valentine of New York read this paper. Illustrations showing the technic were distributed. Anesthesia is generally needed. None but physicians should do the operation, as it is a surgical measure and surgical asepsis should be carried out. Religious liberty would not be interfered with by this rule and laws should be enacted to this effect. In answer to questions Dr. Valentine stated that fewer circumcised than uncircumcised men came for genito-urinary treatment. The question of advising the circumcision of every male child is a large one and he does not think it wise to advocate publicly this procedure. He would circumcise in every case when asked by parents to do so.

The following papers were read by title: "Treatment of Ear Complications in Measles, Diphtheria, and Scarlet Fever," by Dr. C. W. Hoopes of Philadelphia; "Rheumatism," by Dr. S. E. Woody of Louisville; "Chorea," by Dr. J. Clements of Kansas City, Mo.; "Medicinal and Surgical Treatment of So-Called Scrofula," by Dr. G. M. Blech of Chicago; "Essential Points of Difference in Treatment of Adolescent and Senile Heart," by Dr. John A. Robison of Chicago; "Abortive Treatment of Pneumonia," by Dr. H. Illoway of New York; "Eye-Strain," by Dr. T. H. Fenton of Philadelphia; "Neglect of Teeth in Children," by Dr. A. D. Rosenthal of New York; "Physician's Responsibility in Physical Education of School Children," by Dr. Grace E. Spiegle of Philadelphia; "Movable Kidney in Children," by Dr. I. A. Abt of Chicago; "Symptomatology of Appendicular Inflammation in Children," by Dr. T. H. Manley of New York; "Normal Salt Transfusion in New-Born for Hemorrhage from Cord," by Dr. J. S. Miller of Philadelphia; "Some Joint Diseases in Children: Their Diagnosis and Treatment," by Dr. E. A. Tracy of South Boston, Mass.; "Diseases of Antrum of Highmore in Young Children, with Report of Case," by Dr. Emil Mayer of New York.

The following officers were chosen for the ensuing year: Chairman, Dr. S. H. Kelly of Cleveland, O.; secretary, Dr. William E. Darnall of Atlantic City, N. J.

BOOKS RECEIVED.

The MEDICAL NEWS *acknowledges the receipt of the following new publications. Reviews of those possessing special interest for the readers of the* MEDICAL NEWS *will shortly appear.*

THE OPHTHALMIC PATIENT. A Manual of Therapeutics and Nursing in Eye Disease. By Dr. Percy Fridenberg. Demi 8vo., 320 pages. Illustrated. The Macmillan Company, London and New York.

INTERNATIONAL CLINICS. Edited by Dr. H. W. Cattell. Vol. I. Tenth Series, 1900. 8vo., 315 pages. Illustrated. J. B. Lippincott Company, Philadelphia.

THE ANNUAL OF ECLECTIC MEDICINE AND SURGERY. Volume VIII. Edited by Dr. John V. Stevens. 8vo., 822 pages. Illustrated. Cincinnati, Ohio.

THE CARE OF THE CHILD IN HEALTH. By Dr. Nathan Oppenheim. Demi 8vo., 308 pages. The Macmillan Company, London and New York.

THE TREATMENT OF FRACTURES. By Dr. C. L. Scudder. assisted by Dr. F. J. Cotton. 8vo., 433 pages. Illustrated. W. B. Saunders, Philadelphia. $4.50.

DISEASES OF THE INTESTINES. A Text-Book for Practitioners and Students of Medicine. By Dr. Max Einhorn. 8vo., 391 pages. Illustrated. William Wood & Company, New York.

THE CELL IN DEVELOPMENT AND HEREDITY. By Edmund B. Wilson, Ph.D. Second edition. Revised and enlarged. 8vo., 483 pages. Illustrated. The Macmillan Company, London and New York. $3.50.

TRANSACTIONS OF THE NEW YORK STATE MEDICAL ASSOCIATION. For the year 1899. Vol. XVI. Edited for the Association by M. C. O'Brien, M.D. 8vo., 887 pages. Published by the Association. New York.

A PRACTICAL TREATISE ON SEXUAL DISORDERS OF THE MALE AND FEMALE. By Dr. Robert W. Taylor. Second Edition. 8vo., 438 pages. Illustrated. Lea Brothers & Co., New York and Philadelphia.

TRAITÉ DE MÉDECINE ET DE THÉRAPEUTIQUE. Par MM. P. Brouardel et A. Gilbert. Tome septième. Maladies du nez, du larynx, de la trachée, des bronches et des poumons. Par. MM. Cartaz, Castex, Barbier, H. Barth, P. Claisse, Mosny, L. Landouzy, H. Triboulet, Grancher. Balzer, Méry et Le Noir. 8vo., 931 pages. Illustrated. J. B. Baillière et Fils, Paris.

THE MEDICAL NEWS.

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ORIGINAL ARTICLES.

A PROTEST AGAINST SOME OF THE EVILS IN THE PROFESSION OF MEDICINE.[1]

BY J. A. WITHERSPOON, M.D.,

OF NASHVILLE, TENN.

THE honor of delivering the annual address on general medicine, which you have seen proper to confer on me, is one which I fully appreciate, and I now take the first opportunity presented to express to the Association as a whole my grateful thanks for so distinguished an honor.

I also take the liberty of hoping that what I may say at this time will receive the hearty approbation of this large body of representative men. Nearly all of my predecessors have spoken of the wonderful progress and brilliant successes of the profession, and, indeed, they have been truly marvelous. The latter half of the last century has been one grand triumphal march to the present high plane of rational, scientific, preventive medicine, until to-day we are utilizing every element in Nature to solve the many problems of disease.

Chemistry, with its fixed laws of precision, is now receiving its proper recognition and clearing many hitherto unknown fields of empiricism and doubt. The modern laboratory, with its multiplied methods of investigation, has done much to lift the veil of ignorance and mysticism which has so long obscured the true etiologic factor in many diseases, and made preventive medicine the grandest achievement of the age. The modern methods of differential diagnosis, more accurate clinical observations, confirmed by pathologic investigation, have done much toward making medicine an exact science.

We are justly proud of these accomplishments, and when we think of the vast army of laborers in this noble work of humanity and the daily spreading of this wonderful store of information broadcast through the medium of modern journalism, making it possible for the most obscure country doctor to keep fully abreast of the times, and by this means to acquire more knowledge in one year than could have been attained in a life-time, a century ago, we have every cause for self-congratulation.

But it is not the object of this address to linger over these bright, golden fields, except to express my thanks and grateful appreciation to my brothers in the profession. I deem it the proper time and place to call attention to some of the most grievous fallacies and hurtful errors that have fallen into the ranks during the onward march, in some instances obstructing the path to true and honorable progress. I am well aware that it is not politic at these annual reunions to call to mind unpleasant things, but we have a high and noble calling, the untarnished honor of which has been placed in our keeping by our illustrious forefathers in medicine, the protection of which should be as a sacred trust; hence, I dare strike the alarm-bell and call to arms those who are resting in a security born of a sense of duty well done. The old guard have long stood at the helm and safely guided the grand ship of honorable medicine into a harbor of calm where the Code of Ethics offers immunity to quacking, pathies and commercialism. But, while we are taking a well-earned rest, dark clouds have arisen, and threatening waves are breaking over the old ship. Therefore, I may be pardoned if I do not follow in the footsteps of some of my predecessors in omitting the advances of the past year, my excuse being an honest conviction of the necessity and an earnest desire, without malice, to protect the profession from the hurtful tendencies of the times.

Dictation by Pharmacal Companies.

The first stupendous error, one which is so vast in its influence that it hangs like a withering blight over the individuality of every man in the profession, is the dictation of the innumerable pharmacal companies, the self-constituted advisers in the treatment of diseases about which they know nothing, to the entire profession. All honor to worthy and legitimate scientific pharmacy; we should welcome it as a child of medicine, but, as is often the case, the child, as soon as it is out from under the wing of the parent, has grown "bigger than the daddy" and not only tells him how to treat every disease to which flesh is heir, but is condescending enough to formulate his prescriptions with full directions on them, many times omitting the formulæ, but always kindly telling him in what diseases to use them. They are so solicitous that they flood your office with blatant literature full of bombastic claims and cure-alls, and I am sorry to say, too frequently with certificates or articles used by permission from physicians who call themselves reputable. Of course, none of these doctors are members of this body, or even inhabitants of the United States, but live in our new possessions, or some other country without the privilege of resting in the bright light of the Code of Ethics of this Association—a code writ-

[1] Oration on Medicine before the fifty-first annual meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

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ten by the fathers, broad and liberal enough for any true doctor to practise medicine under for a life-time, without a blush upon his cheek.

But that is not all; these drug-houses are so afraid that some one will die through your ignorance or before dull comprehension becomes alive to the merits of their preparations, that they send a man, frequently a doctor who was a howling success in the profession before his health failed, to tell you all about how to treat disease. He leaves you with the parting injunction to always specify his preparations, and with the friendly warning to watch the local druggist—whom you know all about—to keep him from substituting, while he assures you that he and his firm—about whom you know nothing—are the personification of honesty, and that you can always depend upon them and their preparations, as the plants from which they are compounded were gathered by their special agent from the grave of Esculapius. And thus they come, with samples galore, until you are reminded of the old southern negro song, "They are coming, Father Abraham, forty thousand strong," to spread the glad tidings of joy, and make every doctor their walking advertising agent. They are the only people in the world who, without seeing the patient, can tell you how to feed the baby, until he blossoms like the rose, or how to restore the rose-tinted bloom of health to the blanched cheek of the convalescent. They have an antiseptic that can chase the bacilli typhosi through the lymph-channels and pound them to death in the blood-vessels by throwing red blood-corpuscles at them, or the white blood-corpuscles are called up as a reserve, and the war of the roses is again enacted in the human body. Or, they make the emaciated consumptive so fat that he can hibernate and convert his distressing cough into a laugh of joy. Thus, I might enumerate indefinitely what great things they are doing for us, but seriously speaking, gentlemen, this is a curse to the profession, and takes from it its real scientific application, *viz.*, treating each case upon its merit.

In my humble judgment, the fostering of these establishments is a disgrace to honorable medicine. The true sphere of pharmacy is to make the official preparations of drugs and compound our prescriptions. When a doctor acknowledges his inability to formulate his own prescriptions to suit each case, then he should seek some other occupation, more to his taste of commercialism, or less trying by reason of his lack of qualification.

These institutions have such powerful influence, that every medical society meeting must furnish space for their wares, this frequently becoming a place of popular resort where various drinks are served, this taking from the meetings the interest in their scientific work. Yet they are not satisfied with this; it is reported that they have even gone so far as to insinuate themselves into the very body of some of the sections, and that at this meeting they propose to dictate and control the election of officials who are kindly disposed to the manufactured products of their laboratories. Can this be true? Can we rest under such an imputation and retain our self-respect? If these reports be true—and the journals are agitating them, and I have in my possession a letter from a drug house to a journal, making the charge—then, indeed, has the reputation of regular medicine descended to a lower level than I thought. We must have an investigation, and if these charges are true, the time has come for vigorous action. If there are those who are making our holy temple a house of merchandise, then we should drive them from our midst by the scourge of our indignation and contempt as did Christ the money-changers of Jerusalem.

Multiplication of Medical Colleges.

Next, I desire to call your attention to the rapid multiplication of medical colleges in this country. In doing this I do not wish to ignore the great work that has been done by the profession through the development and progress of medical education. The notable advances of the past twenty years, such as lengthening the course of study, laboratory work, etc., have been inspired by the profession, and we have greater reasons to be proud, when we remember that these improvements have been carried out without assistance of large endowments, for very few even of our best institutions have had such aid. But, while we give credit, we must also lay to the charge of the profession the increase in poorly-equipped institutions that have been born of no need, and that are fostered to no good end. This evil has become especially marked in our great cities. It has become a fad and a means of advertising to organize a poorly-equipped medical college, both in teachers and modern means of instruction. The result is cheap notoriety, half prepared students, cheap rates and cheap doctors who bring discredit upon the profession and death to innocent people and who, as a last resort, go into politics and help enact laws harmful to the high standard of honorable medicine.

This induces young, inexperienced graduates to go immediately into a specialty, without experience or special fitness, which is never justifiable. No man is prepared to go into any special field until he has done general work to familiarize himself with disease in all of its phases, and neglect of this training is responsible for so many extremists who never temper their thirst for notoriety with common sense. It is this which has caused the loss of many lives and much unnecessary mutilation of the human body. It is this that gives birth to fads and faddists. It is more than probable that the appendix of our forefathers occupied a position downward from its cecal attachment until the surgical dictum went forth, "No man is a perfect man, so long as he has his appendix." Now you find this trouble-

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some little remains of the "missing link" has left its normal habitat and hidden behind the cecal pouch.

Again, take the spectacle fad. Glasses in the past were an insignia of honorable old age; now we truly find them from the cradle to the grave. Even the negro "coon," who has been noted for keenness of vision, following the uncertain meanderings of the opossum with unerring precision during the dark of the moon, or seeing a chicken on the highest roost the darkest night, must now have "specs" to walk the streets in broad daylight.

All honor to true and legitimate specialism; it should be welcome and aided by every general practitioner, as a scientific and correct division of labor in a field broad enough for all, but this rushing into specialism without the above preparation is truly appalling, and, in my opinion, is injurious, not only to the general profession, but to the truly well-equipped specialist.

Laboratory Diagnosis.

I desire to call attention to another serious error which seems to be the popular tendency of the times. I refer to laboratory diagnosis regardless of clinical symptoms. The microscopic demonstration of the presence of etiologic germs of a disease is not sufficient for diagnosis, but only confirmatory; the clinical manifestations should be present, and the close and careful observer at the bedside must remain the highest court, and chemical and microscopic tests his aids. I believe in adhering to bedside experience. The considering of the case in all its details—history, tendencies, vitality, general aspect, physical signs, subjective and objective symptoms—aided by the microscope and modern methods of research, when needed, is the only way to practise medicine with justice to yourself and safety to the patient. It is an unfortunate fact that many laboratory men know the habits, morphology and methods of culture and staining of pathologic bacteria far better than they understand by experience or observation the diseases these bacteria produce. We must not lose sight of the fact that, while it is right and gratifying that this work is being done and is of great value to medicine, our true mission is to save human life.

Medical Politics.

Here let me express my earnest condemnation of medical politics. I am old fogy enough to believe that we should confer honors upon those to whom honor is due, and method of wire-pulling, or resorting to the tricks of ward politicians, is unbecoming and should not exist in a medical society, especially in this, the largest and most influential medical society in the country. It can only bring discredit to its members and cripple its usefulness. Here, the queen of professional ethics should reign supreme, and, by the light of example, shed her beneficent luster upon the world. The man of true merit, to whom his professional brethren would naturally turn when honors are to be conferred, is often overlooked because his modesty prevents him from advancing his own interests, while men of less ability, but with more "pull," are placed in positions of honor. This should not be.

One of the most grievous and dangerous errors is the present system of quarantine against epidemic diseases. I refer to local boards of health acting independently, often composed of most inefficient men who owe their position to political preferment rather than to any special fitness for the place. State boards acting independently of other boards are largely responsible for the shotgun quarantine, useless disturbance of business and often ineffectual attempts at protection.

If there is any one department of medicine which stands preeminently in the front rank of advancement in this progressive age it is preventive medicine, and, with our increased knowledge, it is a reflection that any serious epidemic disease should gain a foothold on American soil. The only way to prevent this is by giving the power to a National Board of Health. Away with the old political cry of State rights when the lives of our people are threatened. Let us place the strong arm of this Government around this land, unhampered by petty jealousy and minor boards. We are confronted by a serious and grave question involving this very principle. Even now, at the Golden Gate, which has always stood wide open to welcome the stranger, that fearful scourge, bubonic plague, has insidiously gained admission. This Association has time and again, directly and indirectly, expressed its views upon this subject, and appealed to the nation through its representatives, but as yet the full measure has not been meted out. When war with Spain was declared, millions of good "coin of the realm" was voted, and a million men stood ready to enlist and fight for the flag of the grandest country on earth. And yet, a disease is threatening us now, which has claimed more victims than the combined armies of the world, and finds us unprepared to meet it properly. We must make united efforts in the establishment of a National Board of Health, clothed with legal power and supplied with the necessary funds, to protect our people from these threatened invasions of the pestilence that stalketh by night and wasteth by noonday, peering with his grim face and shaking his matted locks, while from his parched lips he emits the gibberish of a foreign tongue. When armies and strong men falter, and tardy statesmen sit with faces pallid by fear and guilty conscience, then the world will turn to us, as the protectors of human life, to buckle on our armor and advance to meet the foe, and we must be prepared to do as our profession has always done—advance with a cool head, a brave heart, and unselfish love for our fellow-man.

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If by united effort we can get Congress to see that no department, not even the Treasury, is more important than the health of our people, and if we can have our Chief Executive appoint the man for the position, allowing the same assistants and clerks as that of any other of the departments, then we shall be able to stop the invasion of foreign disease, and surely every patriotic citizen can trust the President, regardless of politics, under proper laws enacted by our representatives, to solve this weighty problem.

Indiscriminate Use of Narcotics.

We should at this time sound a note of warning upon the growing tendency on the part of many physicians to use morphine and cocaine indiscriminately. There are but few men here of wide experience who do not daily come in contact with practitioners whose panacea for everything is opium in some of its forms, and while I regard it as a wonderful remedy, capable of great good when judiciously used, I am bound to say that when used as it is by some doctors, it is productive of terrible results. The morphine habit is growing at an alarming rate, and we can not shift the responsibility, but must acknowledge that we are culpable in too often giving this seductive siren until the will-power is gone, and a moral and physical wreck is sent down to shame and degradation, often committing crimes while in the toils of his perverted nature. Nor do the fearful results stop here; too often these tendencies are transmitted to the offspring and these innocent victims are brought into the world, half-made mentally, morally and physically, thoroughly unfitted for the many emergencies of life. Ah, brothers! We, the representatives of the grandest and noblest profession in the world, with the God-given mission of making growth more perfect, life more certain and death more remote, must shoulder the responsibility, follow in the footsteps of the Great First Physician, and warn and save our people from the clutches of this hydra-headed monster which stalks abroad throughout the civilized world, wrecking lives and happy homes, filling our jails and lunatic asylums, and taking from these unfortunates the precious promises of eternal life. The hypodermic "shot," as it is affectionately called, is too often given in a stomach-ache, when a dose of oil is needed, or to relieve painful menstruation month after month, until the bright, rosy-tinted cheek of health and the brilliant eye of youth and healthy young womanhood give way to the dry, pigmented skin and the leaden expressionless eyes of the morphine habitué, and a life full of promise and usefulness is blighted forever. Why not seek and remove the cause of these, as well as many other ills for which morphine is given, and thus avoid the specter which, if you are a conscientious physician, will follow you through life and like Banquo's ghost will not down? The same can be said of cocaine, which is rapidly becoming a national evil, because of its indiscriminate use in minor surgical operations, and of the unnecessary and hurtful information too often given the laity of its seductive influence on human beings.

Useless Multiplication of Books.

In approaching the next subject, I feel, before this body, like following the example of the great lawgiver and taking off my shoes, for I realize I am on holy ground. But remembering the maxim of one of the pioneer heroes of my native State, "Be sure you are right, and then go ahead," I have determined to offer my feeble protest against the useless multiplication of books and authors. Every progressive man in the profession feels the necessity of keeping fully abreast of the times, and when a new book is published, will purchase it for fear he may lose some valuable information, too often, to find many of them poor copies of other works, without an original thought, or any necessity or reason for their existence, except, perhaps, the ambition of the author. Every medical library, public or private, is groaning under its load of useless repetition, in systems of many volumes. There is a prevailing tendency amounting almost to mania in young men, to rush into print, and I feel that I can talk freely to them, being one myself. This is especially true in our great cities, for, how often do we see a young graduate, after staying in a hospital a year, and then in a laboratory a short time, suddenly unfurl his banner to the world as an authority, and while his English is excellent and his diction perfect, I doubt whether his experience warrants him in assuming the grave responsibilities of an authority on any subject where human life is at stake. I would not be understood to mean that the young men should remain in the rear and withhold any information they may have acquired by arduous labor, nor would I check their worthy ambition or pluck one laurel from their brow, but I do claim their medium should be the medical journals, which are, after all, the greatest educators of the busy physician. When such a man as Osler, a walking encyclopedia of medicine, regrets the day when he sold his brain to the medical publisher, it is time for younger men to pause and consider before they assume the rôle of authorship.

In conclusion I desire to say that a conscientious sense of duty alone induces me to call attention to the threatening storms which, if not checked while they are yet young and harmless, will eventually undermine the very foundations of true and honorable medicine. Mr. President, when all of these injurious things have been forever eliminated, and the regal robes of ethical medicine rendered aseptic from their present pollution, then we can exclaim with pride, "Sound the loud timbrel o'er Egypt's dark sea, Jehovah hath triumphed; His people are free."

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SOME OF THE PHYSIOLOGICAL METHODS AND MEANS EMPLOYED BY THE ANIMAL ORGANISM IN ITS CONTINUAL STRUGGLE AGAINST BACTERIA FOR MAINTENANCE OF LIFE AND HEALTH.[1]

BY S. J. MELTZER, M.D.,
OF NEW YORK.

THE author states at the outset that bacteriological literature contains a number of important facts which can be brought together and organized into an answer to the problem presented by the title of this paper. But it must be acknowledged that those facts were not discovered to find the cause of health. Bacteriology was born and raised chiefly as a part of pathology, and it did not concern itself so much with the normal course of life, as with its exceptions and abnormities. It was attracted by the problems of immunity and of recovery from infectious diseases.

There is still another feature in bacteriology which, to my mind, is inimical to the proper treatment of the problems of the defenses employed in normal life and which deserves some special discussion. It is the tendency, prevailing in bacteriology, to anticipate only a single factor which does the fighting in the battles of the body. Thus, we see one large group of investigators believing exclusively in the theory of phagocytosis, while another group swears only by the alexines. It is interesting to note that the line of division between the two groups is the same here as it is in pathology. The old school of pathologists believed that the cause of all diseases was located in the body-fluids, or in the blood—humoral pathology; the new school looks to the cells of the body as the seat of the evil—cellular pathology. The enemy resides either in the blood or in the cells, and so is the defense to be found either in the blood or in the cells. The schools differ as to the character of the leaders, whether admirals or generals, but they agree that the attack, as well as the defense, can be carried on only by a single leader.

When some sixty years ago the young school of physiologists of those days had demolished the idol of vital force, they rendered a great service to the science of biology by opening up all mysterious paths and phenomena of animal life to the searching light of the modern investigator, who learned to work with methods employed in the exact sciences. This service was and is generally appreciated; it consisted in the abolishment of the idea of vitalism. But the scientific revolutionists of those days have rendered to physiology another important service which, as far as I can see, has never yet been clearly pointed out. When they overthrew the irresponsible reign of the vital force, they did not attempt to replace it by another single-headed force—they simply converted the monarchy into a republic! Within the last half century the domain of physiology was toiled by an army of painstaking workers, throwing their search-light into every corner and crevice of animal life; but until very recently no attempt was made to single out a tissue, a system, or a process as the leading spirit of the living mechanism. Neither the nervous nor the circulatory systems, neither the anabolic nor the catabolic processes, and neither the blood nor the cells were singled out to be entrusted with the leadership of the whole. The constant reappearance of the same morphological unit—the cell—in the histological studies of the tissues of the body, naturally did not impress the minds of the physiologists, whose object of study was chiefly the function, and not the form. But even the frequent reappearance in many body-tissues of one and the same functional phenomenon—the irritability—did not mislead the student of physiology to proclaim this characteristic feature of living tissue as the *primum mobile* of the life-machinery. The shape and quality of the bricks used in the erection of a building do not decide its nature and destination, whether it be a mansion, a monument, a factory, etc. Moreover, the animal body consists chiefly of a great number of harmoniously working mechanisms, in each of which all tissues, systems, etc., are participating in its complex construction, and it is still a great and open question, whether any tissue takes part in the work of the body directly, without the intervention of a mechanism. But here again no exclusive leadership is entrusted to any special mechanism. To be sure, the propeller of the circulation is an important mechanism, a serious impairment of its working is sure death. But neither should the modest gateman at the entrance of the larynx be underrated; failure of the prompt closure of the glottis during each deglutition, would cause suffocation and death. The same applies to the standing of the participating tissues within each mechanism. The respiration, for instance, is affected not only by such important changes as occur in the metabolic processes, in the composition of the blood, in the nerve-cells within the respiratory center, etc., but also by changes in tissues of apparently such low vitality as are the elastic fibers of the lungs or the cartilages of the ribs.

In short, the unity of life is an ideal commonwealth, without a king or an almighty president. It is governed by all its citizens, working in committees, each one of which performs its task, high or low, with promptness and exactness, to accomplish in the first place its own end, but also with an avowed purpose to be in steady communication and co-operation with all the other committees; thus securing a harmonious, concerted action of one and all—for the welfare of life and health.

It is not here the place to speak at still greater length of the correctness of such a view within the domain of physiology. Nor shall I discuss here the applicability of a similar view to pathology. But I shall insist upon that the prevailing view in bacteriology with regard to the defense

[1] Author's abstract of paper read by title at the General Session of the Congress of American Physicians and Surgeons, May 1, 1900.

of the body against bacteria, *viz.*, that it is entrusted chiefly to a single element (be it the blood with its alexines, or be they the leucocytes, or the other body-cells), is neither correct nor advantageous. It is incorrect, because it is improbable that the republic government of the body, in which all parts are working harmoniously in all the other struggles of life, should delegate the steady struggle against bacteria to a single tissue. On the contrary, it seems rather highly probable that, like in all defenses, every tissue, system, and mechanism is called into service to combat the invasion at every step and by any attainable means. And it is disadvantageous, because experimentors who concern themselves with finding exclusive principles which are capable of destroying bacteria and their products in experimental diseases to a value of 80 or even 100 per cent., have only contempt for factors in the struggle which could contribute to the successful end only 4 or 5 per cent., which is often below the possible experimental error. While in the natural struggle of life the army of the invading bacteria are met by a small army of trained defenders, each one of which, may be, contributes to the success indeed only one per cent. or even only a small fraction thereof, the sum total of all of which represents nevertheless a hundred per cent.!

Backed by the preceding considerations, I venture to offer the following two suggestions of a general character:

I maintain in the first place that in the struggle against bacteria the defense of the body is not carried on, exclusively or chiefly, by a single element. It is neither the body-fluids, nor the leucocytes, nor the other body-cells alone which can claim the exclusive merit of maintaining the health of the body, but each and everyone of them has its variable share in attaining the desired end.

I maintain furthermore that in health, at least, the actual defense is carried on not by a single tissue, or a single function, but by concerted action of several tissues and functions, by the working of a mechanism. By mechanism I mean the co-operation of several independent factors in attaining a common purpose. Let us take as an illustration the protection of the conjunctival sac. It is nearly in direct contact with the air, and we might expect to find there an extensive bacterial settlement. Nevertheless Lachowitz and Bojwid found that in 69 per cent. of cases the conjunctiva was perfectly sterile. The factors which accomplish this sterility, or at least the comparative sterility of bacteria, are: The reflex which causes the closure of the lids at the approach of dust (the carrier of bacteria); the blinking which occurs regularly a few times in a minute and which, in conjunction with the lacrimal moisture, throws out again mechanically the already-landed bacteria; and, finally, the bactericidal effect of the tears destroys the balance of the invaders. Or let us take the respiratory organ from the larynx down to the respiratory tissue, including the corresponding lymph-glands. I would like to call attention to the unique position of the respiratory path, which perhaps has never yet been sufficiently pointed out. Through this path the outside world stands in an intimate relation with the interior of the body, inasmuch as the air-column is separated from the lymphatics and capillaries of the lungs merely by a single layer of the very thin epithelium of the air-cells. Even the serous cavities are separated from the lymph-spaces by thicker layers. This arrangement is, of course, indispensable for the proper exchange of the blood-gases with the air. But what prevents the bacterial invasion of the interior of the body by this open and direct way? Moreover, most of the writers agree that trachea, bronchi and lung tissue of healthy animals are nearly sterile. In a number of rabbits under morphine anesthesia I found all these parts to be sterile. If one vagus, or a laryngeal branch, was cut, then the upper part of the trachea contained bacteria, but not the lungs. When both vagi were cut, then of course the lungs, too, were invaded. Jundell reported recently that by means of a special device he was able to test the human trachea, and found that in the majority of healthy cases the region below the glottis proved to be sterile. What protects this path? In my opinion the result is accomplished by the co-operation of the following factors:

The tortuose part of the respiratory path lying above the glottis removes, perhaps, the greatest part of the bacteria contained in the inspired air-column and the remaining number is, under normal conditions, just small enough to be disposed of by the factors present below the larynx. Bacteria which pass the glottis are either carried back outside of the glottis from the trachea and the bronchi by the steady movements of the cilia of the epithelium; or, if the germs are carried in the center of the air-column down to the air-cells, they quickly penetrate the thin epithelial layer and are immediately within the reach of the lymphatic glands which take good care of them. The ready penetrability of the air-cells I consider a favorable factor, because, if the bacteria were retained for some time in the alveoli, they might settle there, proliferate, form a necrotic focus, and overflow the body with toxins, or even with bacteria, entering directly into the capillaries. As to the activity of the lymph-glands, the observations of Loomis, Pizzini and others are very instructive. The lymph-glands of more than forty per cent. of non-tuberculous lungs contained living bacilli. The reduction of the invading bacteria to a small number is essential for the success. In inhalation experiments with large numbers of bacteria thrown into the respiratory path, the normal mechanism fails.

In this illustration we see how an entrance which is most conveniently open to the invading bacteria is guarded successfully, not by a single tissue or function, but by a combination of more or less valuable factors—by a mechanism.

In connection with the respiratory path, I would like to recall here the interesting fact that

both canals which lead furthest to the innermost of the body, that is, the respiratory and the female genital canal (which latter terminates in the peritoneum) have ciliated epithelium, the movement of the cilia being outward and are, as far as the epithelium extends, entirely or nearly sterile. The tendency of our times is to underrate the value of mechanical factors. What energy those movements of the cilia represent has been shown by our distinguished president some twenty-five years ago. According to his calculations the work accomplished by one cilia within one minute would be sufficient to lift its own weight 4000 meters.

Turning to the plan of defense throughout the entire body, I have to state at the outset that in its outlines it is much the same as seen in the two mechanisms already cited. Thus the aim is to greatly reduce the number of bacteria by mechanical methods and then to destroy the remnant by some biological means. The mechanical methods are: Barricading the entrance, throwing out again the landed bacteria, or carrying them to the place of destruction. The following is a short sketch of the physiological defense-work, carried on throughout the entire body.

The bacteria are decimated at their entrance into, and their advance within, the body cavities. They encounter in the mucous membrane the first and in the net of lymph-glands the second barrier against their invasion of the interior of the body; and, when finally there, a part of them is thrown out again with the bile, the urine, and the sweat.

The number of bacteria remaining within the interior of the body is in normal conditions comparatively small, and these are readily destroyed by the factors entrusted with this task. What are these factors? We know that when saprophytic or moderately virulent bacteria are introduced intravenously into a healthy animal body, they disappear not only from the blood, but also from the entire interior of the body within a comparatively short time. Bacteria grow well on proteid-media, and develop rapidly in dead bodies. They settle and develop well even in living bodies, if they find there necrotic foci, as was shown among others by the experiments of Cheesman and myself. But diminish the vitality somewhat, as by chronic heart and kidney-diseases, and the invasion and settlement of micro-organisms in the body is encouraged, as was well demonstrated by Flexner in his paper on terminal infections. It is thus an established fact that the healthy living body destroys the invading bacteria. By what means? Metschnikoff and his followers believe that it is done chiefly by the leucocytes. We cannot discuss here the immense material brought forward for and against this theory. The impartial opinions seem to have settled upon the conclusion that the leucocytes undoubtedly often assist in the work of the destruction of the bacteria. They are, however, neither the exclusive, nor even the chief actors in this work. Buchner, Denys, and many followers, believe that the destruction of the bacteria within the body is accomplished by the bactericidal elements which are surely present in the blood outside of the body. The proof, however, is still lacking that such exist and are effective in the circulating blood within the animal. It is, however, gratifying to observe, how the differences between these two leading theories have gradually dwindled. The present status is as follows. Metschnikoff now admits that the body-fluids also contain some bactericides, but he maintains that they are derived from broken-down leucocytes; and Buchner now takes the ground that the alexines are derived from the living leucocytes which secret them. The mechanism phagocytosis consists in the positive chemiotaxis which causes the attraction; in the wandering of the cell to the micro-organism; in the embracing or catching of it, dead or alive, and in the chemical digestion of the germ within the cell. In Buchner's theory the cells are attracted by and wander to the bacteria, in the neighborhood of which they secret the deadly alexines.

(The author here gives a brief account of the discoveries made in the studies of the phenomenon of immunity; for instance, the several kinds of antitoxins, the antimicrobic sera, the lysius and the agglutinins, the instructive and widely-accepted theories of Ehrlich, the bacteriolytic enzymes of Emmerich and Loew, etc.)

The facts and theories briefly referred to are very far reaching and of primary importance. But for the present they cannot yet be utilized satisfactorily for the explanation of the rapid disappearance of numerous bacteria from the interior of the normal animal body.

I might be permitted to state here briefly the suggestion of two new factors, which, in my estimation, are capable of assisting in the work of the destruction of bacteria within the body.

One of these factors is the process of plasmolysis. When cells having membranes are placed in a salt solution, more concentrated than that to which they were accustomed by the osmotic interchange of salt and water, the latter leaves the cells and the protoplasm recedes from the membrane. The same is true also of bacteria. When the vacuolization takes place at the long sides of a bacillus, the vacuoles may meet at the middle of the long axis and the receding protoplasm appears divided in two parts, presenting sometimes the appearance of a diplococcus surrounded by a halo. If the solution is soon diluted again, the cells may regain their normal appearance, although sometimes the membrane bursts when the change is too sudden. When the injurious concentration continues, the changed form might become permanent, or at least will yield very slowly to a later dilution. Even in the permanent change the cell will continue sometimes to live, but offers then but little resistance to any accidental injury. Now even in the same class of animals the body-fluids of different species, or even subspecies, have a different osmotic pressure and what is isotonic for this species might be hypo-

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tonic for one and hypertonic for another species. As there is no proof, nor even any good reason, for the assumption that the blood and the other fluids of the animal body are isotonic with the protoplasm of the bacterial cell, may we not assume that the fluids are hypertonic, and therefore plasmolytic for bacteria which get into them? And as the organisms remain in the hypertonic animal fluid for some time, the state of plasmolysis becomes permanent and the bacteria succumb easily, either to the effects of the plasmolysis itself or to some insignificant accidental injury?

Baumgarten, who for years opposed the theory that the bactericidal properties which are manifestly present in the extravascular blood exist and are active in the circulating blood, recently came out quite strongly for the assumption that the destruction of bacteria in the extravascular blood is chiefly due to plasmolysis. It is surprising that he does not even discuss the question whether also the blood within the living body might be plasmolytic for the invading bacteria. Here he repeats his often-pronounced opinion that the natural immunity rests chiefly on the absence of certain nutritive elements within the living organism which makes the latter an unsuitable medium for certain bacteria. I am not aware that the suggestion I make was ever brought forward before. But I am going to enlist in favor of my hypothesis certain important observations made by a distinguished member of our Congress. I am doing it with great reluctance, as I am afraid that my interpretation of the facts will not receive the sanction of their discoverer. In a series of communications Professor Adami has reported a number of extremely interesting facts concerning the presence of diplococcoid forms of bacteria in the liver, kidneys, etc., of which I shall mention here only the following: When a culture of the colon bacillus is introduced into the ear-vein of a rabbit, there appear after some short time in the liver and the kidney bacterial bodies resembling diplococci which are surrounded by a halo. Such bodies are also found in the liver of normal adult rabbits, but not in the livers of very young ones. Similar bacterial bodies develop also in body-fluids when inoculated outside of the body with the colon bacillus. That these bodies are actually remnants of the colon bacilli is proven by the fact that some of them gradually assume normal forms when reinoculated in suitable media. Now, double dots surrounded by a halo is just one of the forms into which bacteria are transfigured by plasmolysis. I therefore risk the interpretation that Professor Adami has practically discovered the degeneration of the invading bacteria by plasmolysis, for which I put forward the claim that it is one of the regular factors in the defense of the body against bacteria.

The second new factor, which I believe has a regular place in the lines of the defense, is the vibrating effect of the heart-impulse. By the analysis of many data existing in the literature regarding the significance of vibration to cell-life, and on the basis of results of my own experiments, I arrived at the conclusion that the relations of vibration to life are similar to those of temperature. A certain minimum is indispensable to all forms of life, a certain maximum cannot be overstepped by any one, and there is a certain optimum for every one. But every species of cells has its individual minimum, optimum and maximum. I found that a certain degree of vibration which was an optimum for one kind of bacteria was destructive for another kind. In recent experiments, a repetition of experiments made by Professor Welch and myself some years ago, I could establish the validity of this law also for the red blood-cells. In a previous paper I made the remark that the vibrations emanating from the impulse of the heart form probably the optimum for the living cells of each individual animal. Now, recent experiments have shown me that the vibrations communicated to the body by the heart are deleterious to extravascular, dead blood. I have placed small rubber-bags or bottles with blood in the peritoneal cavity, or in the subcutaneous tissue of animals, and found that the red cells of this blood were destroyed much earlier than those of the blood which was kept in thermostat at a temperature equal to that of the inside of the animal. The suggestion which I wish to make is that the vibrations emanating from the heart-beat of the animal is more than a maximum for all the bacteria invading the interior of the animal body, especially in the injured state into which they are placed by the other influences of the body, for instance by plasmolysis.

From the observations of Adami and other investigators, we might consider it as an established fact that the interior of the adult body is regularly invaded by a number of bacteria, which, however, do not settle there, but are sooner or later destroyed. What effect does this constant invasion and destruction have on the body? If we introduce bacteria by some artificial method into the interior of an animal, we immunize this animal. Why should it be different when the bacteria invade the body by natural ways? I believe, therefore, that the regular, moderate invasion of bacteria into the interior of the body is far from being an infection, an evil; it is a means of immunization, at least against the evils of an invasion of the same kind of bacteria in numbers larger than usual. The immunization is, of course, not strong enough to show the presence of antimicrobic serum within the blood; neither is it equal to meet the emergencies of extraordinary invasions. But we do not know whether it is not due partly to this perpetual immunization that disease is such a rare exception.

Latent infection, therefore, is not a foe to normal life, to health, but is rather a confederate in the defense of it.

Appointment at Charity Hospital.—Dr. E. M. Foote has been appointed visiting surgeon to fill the vacancy caused by the resignation of Dr. J. B. Walker.

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SOME POINTS IN THE MANAGEMENT OF OBSTETRIC CASES IN PRIVATE PRACTICE.[1]

BY JOSEPH BROWN COOKE, M.D.,
OF NEW YORK.

IT is not my intention to go over the entire ground of the management of obstetric cases in private practice, but merely to mention, in a more or less disconnected way, two or three points in technic, the importance of which has not, so far as I know, been sufficiently emphasized.

Few physicians in general practice make any effort to systematically record and preserve for reference histories of all their cases, and the adoption of such a system, especially in obstetric practice, cannot be too strongly urged.

A pregnant woman may be well compared to a ship at sea. The chances are that she will arrive in port without accident or mishap, but, unless a most vigilant and unremitting watch is maintained from the beginning to the end of her voyage, disaster may overtake her at any moment. In like manner serious and unlooked for complications may arise during the course of pregnancy unless every precaution against their onset is observed.

To guard against this danger and to avoid the possibility of overlooking the presence of any unfavorable symptom, however slight, an accurate history of every case must be kept from the time when the patient is first seen until the end of the puerperium. In addition to the benefits that accrue to the patient by the adoption of such a system, the physician is placed in a position to profit by his own experience in the fullest sense of the phrase and every case will serve as a stimulus to better work and clearer judgment. History-books are only suitable for hospital use and are comparatively valueless to the practising physician. He comes in contact with his patients under a great variety of circumstances, often when he least expects them, and his records, to be of value, must be made on the spot and not written down from memory after a lapse of many hours and often of several days. Consequently he must provide himself with some means of recording every important feature of his cases at the moment when the information is imparted to him, and this indication is filled in an ideal manner by the use of history-cards which can be carried in the pocket as long as the patient is under frequent observation and afterward put on file for reference.

My own cards, for assistance in the preparation of which I am greatly indebted to Dr. J. R. Tillinghast, do not differ essentially from others that I have seen except that they are considerably smaller and can be carried in the pocket without folding or bending.

Three cards are used for each patient; one for the pregnancy, one for the labor and one for the puerperium. The pregnancy-card has space on its face for the patient's name, address, age, nationality, date of marriage and date of expected confinement. Below this are recorded her family history, personal history, especially as regards rickets, scarlatina, diphtheria, nephritis and syphilis, the physical examination of her heart, lungs, liver and spleen, and her menstrual history, with the age at which menstruation began, the interval between the periods, the duration and amount of the flow, and the presence or absence of pain before, during or after the flow. If the woman has been pregnant before a brief history of her previous pregnancies, previous labors and previous childbeds, is recorded in the space provided for it, after which the date, duration and amount of her last menstruation are noted.

Her present pregnancy is next investigated and space is provided for notes on vomiting, headache, edema, arterial tension, albuminuria, and any treatment instituted. If quickening has occurred the date on which active fetal movements were first noticed is recorded. The back of the pregnancy-card is devoted to the examination of the patient, which is made not later than the thirty-second week of gestation and usually at a somewhat earlier period. This examination covers the condition of the breasts, abdomen, uterus, pelvis, fetus, vagina, cervix and perineum, and nearly half the card is left blank for any other matters that may suggest themselves in individual cases.

The labor-card bears on its face a minute record of a normal labor, together with notes on the placenta, membranes, cord, hemorrhage, perineum, cervix, infant, douches if any, and the maternal condition for one hour postpartum. On its back are spaces for recording a forceps operation, a version and a breech delivery, with half the card blank for remarks. The puerperium-card covers two weeks and has space for daily notes on the condition of the mother's breasts, fundus, lochia and bladder, and the infant's eyes, cord, bowels, urine and weight. Below this is recorded the examination of the mother's breasts, uterus, cervix, perineum, adnexa and general condition at the end of the puerperium and of the infant's eyes, navel, buttocks, gentitals, nursing and general condition. On the back of the puerperium-card is a two-weeks' temperature chart ranging from 97° to 105° F., and space for daily records of the woman's pulse, respiration, urine and stools.

At the termination of the case the three cards belonging to it are placed in the filing cabinet for future reference. A leather pocket-case is supplied with the cards, in which twelve or fifteen may be carried comfortably. Two or three blank pregnancy-cards should be kept with the others so that the history of a new patient may be begun when she is first seen, whether it be at the physician's office or in her own home. Beyond the matters suggested by the headings on the history-cards, there is little to be said as to the management of pregnancy except on the subject of urinary examinations. The urine should be examined within a week of the patient's first visit and

[1] Read before the Section on Obstetrics and Gynecology of the New York Academy of Medicine, March 22, 1900.

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then monthly until the end of the seventh month of gestation, after which analyses should be made weekly, or oftener if necessary, until labor has taken place.

For a long time I found the greatest difficulty in securing specimens for examination with any degree of regularity. Often the patients would forget or neglect to send their specimens at all, and when they were sent they would arrive at all hours of the day and in every conceivable kind of container, from a four-dram vial to a twelve-ounce cod-liver oil bottle. In many instances there would be no name or date on the package and no possible way of ascertaining from whom it came. Finally, in the belief that lack of system on my own part was largely responsible for the existence of the same fault among my patients, the following plan was adopted, with most satisfactory results. A number of wide-mouthed, glass stoppered, four-ounce bottles were obtained and labeled as follows: IMPORTANT.—Take specimen from *mixed*, evening and morning urine, and deliver before noon on WEDNESDAY. Amount in 24 hours . . ; name . . . . ; address . . . . ; date . . . . When a patient is first seen she is given an empty bottle and told to bring or send it to the office on the following Wednesday before twelve o'clock, filled and with the blank spaces on the label properly filled out, and to send a specimen in the same way on the first Wednesday of every month until she is directed to do otherwise, which, of course, will be at the end of the seventh month when weekly examinations are begun. When the specimen is left at the office the bearer is given in exchange an empty bottle, freshly labeled, for the following month or week as the case may be.

A list is kept of all specimens due to arrive on a given Wednesday so that delinquents may be notified at once by mail or messenger. The plan has been surprisingly successful, for it insures a clean bottle, a sufficient amount of urine for examination and more than anything else, it impresses on the patient's mind the importance of sending the specimens regularly and promptly.

It seldom happens that all the bottles are not in the office by ten o'clock on Wednesday morning and by having them all together in this way the work of examining them is, of course, lessened to a marked degree. As the analyses are all made in the physician's office and at one time it is more convenient to record them in a book and to make no note of the result on the history card unless abnormalities are found.

Another point to which I wish to refer has to do with the maintenance of absolute asepsis from the beginning to the end of labor. Aseptic solutions are in constant demand in the lying-in-room and the most painstaking care in the disinfection of the hands and instruments will amount to nothing, if, for any reason, the parturient canal or any part of it require douching or cleansing and an ample supply of sterile water is not at hand. Boiling water can usually be had in sufficient quantity, but it frequently happens that there is not time for it to cool down to a suitable temperature and cold water from the faucet is, of necessity, added to it. To obviate this difficulty I have provided myself with a number of wooden boxes with stout leather handles each of which contains four half-gallon bottles of distilled water, one pint of boric-acid solution for the infant's eyes and mouth immediately after birth: one pint of standard sterile salt solution for infusion; three agate basins or trays, one for sponges, one for towels and one for receiving the placenta with the gush of blood that follows it, and a two-weeks' temperature chart for the nurse's use. One of these boxes is sent to each patient three weeks before labor is expected and the slight trouble expended in making it ready is more than compensated for by having it at hand when the woman is delivered. There is never any doubt as to the absolute sterility of the solutions, and the trays are of the greatest convenience in that they are of a size and shape exactly suited to the requirements of the case.

The subject of obstetrical bags has been pretty thoroughly exhausted and I have only one point to raise in this connection. Every labor is, in a sense, an emergency case for it is impossible to predict the exact hour or even day when the summons will come. Consequently, it is extremely difficult to be in constant readiness, both by day and night, to respond at once to such calls. Moreover, a second case may, and by a curious coincidence often does, follow so closely upon the first that the physician has to go directly from one patient to another with the least possible delay. For this reason any form of bag which necessitates preliminary sterilization of instruments at the obstetrician's house is apt to be decidedly unsatisfactory. If a second case calls for immediate attendance, or if an instrument or suture is in any way rendered septic, the means of rapid and effective resterilization should always be available.

On this acount I have discarded every form of so-called aseptic bag and carry nothing sterile to my cases except operating gown in a muslin-case, gauze, cotton, cord dressings and sutures of silk and catgut. Instruments and silkwormgut, if it is needed, are boiled in a long narrow copper tray of such size and shape that it will hold any obstetrical forceps together with cord, scissors, catheter, douche-tube and any other instruments that may be required in special instances, covered with the minimum amount of water, to secure rapid boiling. If when needed they are too hot for use, they may be cooled by the addition of some of the distilled water to which reference has already been made. By this plan, the physician is absolutely independent of his outfit and, if necessary, can go from one patient directly to another and do equally good work in both cases.

269 West 138th Street.

Dr. Jacobi Honored.—At the recent commencement of Columbia University Dr. Abraham Jacobi was honored with the degree of LL.D.

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MEDICAL PROGRESS.

Pneumothorax and Whooping-Cough.—F. Nilly (*Med. Chronicle,* May, 1900) reports the case of a child seriously ill with whooping-cough and diphtheria in whom the pulse-rate averaged about 145 and the respirations about 70 or 80 for several days with consequent marked prostration. The only physical signs obtainable were an uncertain hyperresonance at the left base, with distant breath-sounds approaching the bronchial type just within the angle of the scapula. An exploratory puncture demonstrated the presence of air and on the next day a considerable quantity of gas was evacuated, but no pus was found. The differences in the pharyngeal signs at the two bases had disappeared next day and the child made a steady subsequent recovery.

Treatment of Abortion.—A large percentage of the cases of chronic pelvic inflammation can be traced to a neglected or improperly treated abortion, writes J. S. Baer (*Obstetrics,* May, 1900). In threatened abortion, if seen early, give morphine and keep patient in the recumbent posture with hips raised until all danger is past. Then give fluid extract of viburnum prunifolium and forbid excitement or excessive physical effort during the period of gestation. Do not use a vaginal tampon. If abortion is inevitable, with profuse hemorrhage, dilated os, and the membranes or fetus presenting, and the patient having nervous chills or fever, give a dose of valerian and tampon the vagina. This latter stimulates uterine contraction and favors separation of placenta and membranes, and expulsion of fetus by retained blood. Remove tampon in twenty-four hours, and, if necessary, tampon again for the same length of time. If uterus is not emptied, operative measures are indicated. In complete abortion with expulsion of the fetus, but retention of placenta or membranes, try the tampon, if at about the fourth month and there is no fever or odor. However, if fever or fetor, the uterus must be emptied at once, and best by the curette under anesthesia. The forceps are introduced, the blades separated, and one blade used as a curette; the uterus is then irrigated, and it and vagina packed lightly with iodoform gauze. Then give ergot, continue antiseptic douches, and keep patient in bed as long as if labor were full term.

Hydatid Cysts of the Liver.—These may be unilocular or multilocular, says F. P. Henry (*Proceedings of the Patho. Soc. of Phila.,* May, 1900), the latter, the rarer variety, being hard and firm, and composed of a fibrous tumor enclosing space with clear gelatinous contents, in which the cysts are found. The infection is rare in this country, but is common enough in Iceland and Australia, where careless habits of cleanliness prevail, and the inhabitants live in close contact with their dogs. The dogs become infected from eating the flesh of sheep and oxen. The tænia develop in the dog's intestine, are about a quarter of an inch long, and are usually transmitted to human beings from the dog's tongue. The microscopic examination of the cyst-contents shows granular detritus, cholesterin crystals, and the characteristic hooklets.

Podalic Version.—The dangers of this operation to the mother, says D. S. Hanson (*Cleveland Medical Gazette,* June, 1900), are rupture of the uterus, sepsis, shock, hemorrhage, laceration. Rupture of the uterus should not occur if any liquor amnii remains, and sepsis may be avoided by strict cleanliness. The dangers to the child are interference with circulation due to pressure on cord, embarrassment of respiration by attempts of child to breathe before its head is delivered, so drawing liquid into its lungs, injury to nerves by traction on neck, and fracture of humerus. Yet in spite of these dangers, version is usually to be preferred to a forceps-delivery, as being easier, less dangerous, and more effective.

Slight Fever During Puerperium.—Slight elevations of temperature during the puerperium occur oftener by half in primiparæ than in multiparæ, and are usually due, says K. Franz (*Centralbl. für Geburtshülfe und Gynäkologie,* translated for *Obstetrics,* May, 1900) to the retention of the products of saprophytic bacteria in the uterus. These bacteria are probably identical with the saprophytes of the vagina, and are often present in the normal uterus; they give no symptoms so long as there is free vent to their secretions. Internal examination tends to produce slight fever only by causing vaginal abrasions, and thus furthering the development of the normal vaginal bacteria. Long duration of labor, or of the expulsive stage, and premature rupture of the membranes have little influence, but diminishing the duration of the third stage tends to produce slight fever.

Actinomycosis of the Lower Jaw.—This condition was acquired by a tooth-brush maker, according to Guinard (*Bull. et Mém. de la Soc. de Chir. de Paris,* T. 26, No. 6), in the following manner: Hogs' bristles were first washed, then taken into the mouth in order to stick them into the handle-holes in bundles. The suggestion is hence wise that these brushes be boiled before using them for the first time.

Cecal Actinomycosis.—In two of three cases, reported by Hofmeister (*Beitr. z. klin. Chir.,* Band 26, Heft 2) microscopical examinations made the diagnosis probable, in the third absolute. The remarkable sign in each was a sharply-defined local movable mass, which the author regards as strongly indicative of the disease. In one a section of the colon was removed and an artificial anus made, which soon healed. In the others a resection of the cecum, appendix and adjoining small and large intestine cured.

Value of Bromopin.—While the action of the bromides of the alkali metals in general is satisfactory, the administration of large doses is often

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followed by bromism, so that J. W. Frieser (*Klin. therap. Woch.*, May 27, 1900) finds it advisable to draw the attention of physicians to a new compound, bromopin, made by the action of bromine on oil of sesame and containing 10 per cent. of the former. Bromism has never followed its use in his hands whether a single large or repeated small doses were given. It appears that the drug passes the stomach unchanged, to be absorbed in the small intestine and to be deposited in the tissues like other fats, the bromine only gradually being liberated. Its oily taste is sometimes objectional, in which case it may be given subcutaneously. In appearance and odor it hardly differs from the pure oil of sesame.

Investigation of Sulphocyanates.—G. Treupler and A. Edinger (*Münch. med. Woch.*, May 20 and 29, 1900) say that the presence of sulphocyanates in saliva, urine and milk is not accidental but must be looked upon as a result of normal metabolism, following the decomposition of adenin, a substance allied to uric acid. The authors have found their properties singularly nil, despite the fact that they have been accredited with strong antiseptic powers. They have injected rabbits subcutaneously with the potassium salt without interfering in the least with the animals' well-being. Bacteria were hardly restrained in their growth. Tuberculous guinea-pigs which were subjected to sulpho-cyanate injections showed no improvement. Rabbits, who had received injections some time before they were rendered tuberculous, reacted somewhat more favorably since no tuberculous deposits developed in the chest organs and in the diseased areas it appeared as if a slow healing process went on. But a cure never took place and some animals succumbed even more rapidly with the injections.

When to Operate in Appendicitis.—J. B. Murphy (*Internat. Jour. Surg.*, June, 1900) says that if all acute infective cases of appendicitis were operated upon inside of twenty-four hours the maximum mortality would be within 2 per cent. No man can tell within the first twenty-four or forty-eight hours what the further progress of the case will be; the danger to life and the period of convalescence increase with the length of time between the onset and the operation; therefore, the most rational thing to do is to operate within the first twenty-four hours.

Juvenile Neurasthenia.—C. L. De Merritt (*N. Y. Med. Jour.*, June 16, 1900) urges the importance of recognizing symptoms of neurasthenia and hysteria appearing in children, for he believes that a majority of such cases among adults have their insidious beginning in childhood. Heredity is both a direct and indirect factor. By the latter is meant that neurotic parents scold and nag their children incessantly, yet have not the will-power to enforce real discipline, thus destroying the mental equilibrium of their offspring. Overstudy is not the chief factor in causing school-children to "break down." German children study harder than ours, but their home-life is more sedate and precocity is suppressed, not encouraged, and collapse is much less often seen. Lack of out-door exercise is a prolific cause of neurotic troubles. The frequent symptoms observed are nocturnal terrors, marked insomnia, great irritability, a tendency to lie and impose on people for no apparent reason, masturbation, fits of crying, habitual feigning of illness and undue love of sympathy. With reference to treatment the parents must first be scrutinized. If they are neurotic or hypochrondriacal it must be explained how such defects react upon the child and thus furnish the greatest incentive to overcome their own deficiencies and a double cure may result. Drugs are of secondary importance. Bromides and hyoscyamus may be temporarily used. Warm sponge bathing at bed-time is of use. In mild cases the child will oftentimes do much better in school, for the withdrawal of the child from companionship and the relaxation of mental discipline may have a most unfortunate effect and produce, instead of a cure, a young hypochrondriac.

Tetanus Treated by Antitoxin.—J. F. Clarke (*N. Y. Med. Jour.*, June 16, 1900) reports a case of tetanus developing after a serious crushing accident to the hand, although prompt antiseptic treatment was given. Seven days later the first symptoms of stiffness of the jaws were noticed, but, owing to difficulty in getting the serum, it was not used until the next day. In about twelve hours there was apparent marked improvement, the jaws being so much relaxed that the tongue could be protruded about one inch. After each injection the pulse became slower and stronger. A few hours later, however, the patient started suddenly from sleep calling for air, the pulse became imperceptible and he fell back in syncope. Although temporarily revived, he soon after died suddenly, the pulse failing before respiration.

Typhoid Infection of Uterus.—A. J. Lartigau (*N. Y. Med. Jour.*, June 16, 1900) has reviewed the cases of Kühnau, Dobbin and Blumer, who demonstrated the presence of the bacillus of typhoid fever in cultures taken from the uterus of patients in the puerperal state. He further reports two cases in detail which he examined thoroughly postmortem and found the typhoid bacilli in the uteri of these cases. One followed the course and presented the lesions of atypical typhoid, but the other was one of that remarkable class of typhoid cases, whose chief interest becomes centered in the absence of any anatomical lesions of the intestine. Both these patients were non-puerperal women and the uteri were practically normal, save for a little congestion and thickening of the mucous membrane, especially of the fundus. The bacilli were found in the urine of the second case, but the author believes that the infection of the uterus in both cases took place from within.

Thoracic Sympathetic Disease.—J. Fraenkel

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(*Med. Rec.*, June 16, 1900) reports an interesting and rare case. The patient was under close observation by the author for nearly one year, and a detailed record of the symptoms from time to time is given. The history seems to be that of a true hysterical case with attacks of pain in the left arm, leg and left side of the face and also at times severe pain in the cardiac region. Repeated physical examinations failed to disclose any abnormality or lesion and the diagnosis of hysteria was made. The patient finally entered a state of acute collapse, became pale, covered with perspiration, the features were pinched, the head was drawn to the left side, and there was an enormous distention of the abdomen. The pulse was about 120 and the temperature only slightly elevated. The patient died and the autopsy showed no important lesion except that the four upper thoracic ganglia of the left side and the intermediary trunks were buried in a mass of purulent material beneath the parietal pleura. The right inferior cervical ganglion was also surrounded by purulent matter. A thorough examination of the cord to determine the source of the pus was not allowed. What relation this anatomical finding had to the clinical picture of hysteria, it is impossible to say. The nerve-cells of the ganglion were very little affected, the pus-cells, together with the staphylococci, streptococci and bacilli which they contained, being massed outside the ganglion-sheath and infiltrated but slightly.

Plantar Reflex.—The so-called Babinski's phenomenon, which is a deliberate, marked extension of the great toe, with or without extension and separation of the other toes, when the sole of the foot is stroked, we have never found, say G. L. Walton and W. E. Paul (*Jour. Nervous and Mental Dis.*, June, 1900), in normal individuals. The plantar reflex with flexion of the toes is absent in ten per cent. of normal persons and in nearly twenty per cent. is unilateral. The infantile plantar reflex varies in the same child, at one time the toes being extended, at another time flexed. In lesions of the pyramidal tract, as in hemiplegia and diplegia, the normal flexion reflex is replaced by the Babinski phenomenon, but this latter was also present in one case each of general paralysis, meningitis, hydrocephalus, uremia, and alcoholism. However, in each of these cases there was some evidence pointing toward pyramidal tract disease, and the authors conclude that the presence of the Babinski phenomenon establishes a pyramidal tract lesion with almost absolute certainty. Its absence, however, does not exclude pyramidal disease, as it was not present in two of four cases of lateral sclerosis, one of two syringomyelia, and in a small proportion of the cases of ataxic paraplegia, myelitis, combined system disease, and trauma. The sign may be elicited in the unconscious state and is absent during convulsions. It is best brought out by a deliberate and even stroke from the heel toward the toes with a not too sharply-pointed orange stick. Babinski's phenomenon is often the earliest reflex to appear and it may persist when other reflexes, such as knee-jerk and ankle-clonus, are absent.

Massage in Recent Fractures.—W. H. Bennett (*Lancet*, June 2, 1900) believes early massage and passive motion to be most important elements in the rational treatment of fractures. Massage relieves the painful muscular spasm, expedites the absorption of extravasated materials, and prevents muscular atrophy; passive motion prevents the painful joint stiffness and adhesion of the soft parts to the site of fracture, and the two together keep the limb in such condition that, as soon as firm union occurs, it returns to full and comfortable function. Taking a fractured leg as example, one first reduces carefully the fracture and then applies a posterior splint with a proper oblique footpiece. After smooth muscle massage for ten minutes, lateral splints are attached. In massage one hand grasps the upper end of the bone while the other is applied to the lower end and is pushed slowly, steadily and gently upward. This is repeated for ten minutes, relieving pain and spasm, and often causing the patient to fall asleep. This massage is repeated every day. At the end of three days passive motion is begun, first with the toes. After the fifth day the ankle may be unbound and passive motion performed, while the other hand steadies the site of fracture. For the passive movement three to five minutes at a sitting are sufficient, but this must invariably be preceded by a quarter of an hour's smooth massage. At the end of two weeks the knee may be given passive motion. At the end of three weeks complete ordinary muscular massage may be carried out, and the leg allowed to be without splints in bed. The nearer the fracture is to a joint, the more important is the massage. The advantages of the treatment are: The ease with which the patient is relieved from muscular spasm and pain; the rapid absorption of effused blood; the prevention of stiffness; the preservation of the normal nutrition of the limb; the shortening of the time by half during which the patient is prevented from having full use of the limb.

Forced Abortion.—When abortion is indicated during the first three or four months of pregnancy, owing to incontrollable vomiting, heart-disease, etc., writes L. Merle (*L'Obstétrique*, May 15, 1900), the extemporaneous dilatation of the cervix, followed by the immediate extraction of the fetus and the clearing out of the uterine cavity is the process of choice. The patient is placed under chloroform, the cervix drawn down, and while the left hand presses on the fundus through the abdominal wall, metallic dilators, preferably those of Hegar, are inserted. When the dilatation is sufficient, which should be in twenty to thirty minutes for a multipara, and up to an hour for a primipara, introduce one finger, or, if possible, two fingers, rupture the bag of

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waters, break up the fetus, and extract it. The curette need hardly ever be used. Then with a hard sponge soaked in bichloride or creosoted glycerin, swab out the uterus thoroughly, give an intra-uterine douche of bichloride, and tampon with salol or iodoform gauze. Performed thus, abortion becomes a sure, harmless, simple and easy operation.

Portable Orthopedic Apparatus.—A. Schanz (*Archiv f. klin. Chir.*, Band 61, Heft 1, p. 114). The knowledge of the underlying principles of mechanical orthopedic treatment is a necessity for the average physician. When unfavorable results of its application have appeared doubtless improperly-designed or fitted braces have been at the bottom of the trouble. There is one way only to avoid this, namely, due understanding of the kind, degree and end results of the essential pathological conditions and of the mechanics by which the apparatus applied may act in correction. Thus, the lesions in active progress and in fixed deformity constitute the great indications for management. Again after the establishment of the final deformity the disease may be renewed so that in the one patient both clinical pictures are exhibited. Scoliosis in modern pathology might be defined as a disproportion between the rigidity and elasticity of the spine when the process is active; but, when the deformity is complete, as a deforming of the spinal column and especially the trunk skeleton. In the former case we seek to restore the relation, in the latter to correct the deformity; both may be carried on together or be taken in series according to the case. All orthopedic appliances may be divided into three classes. In the first group all such traction devices which may be likened to garters. These take their upper support over the shoulders and their point of resistance from the lower part of the trunk or the clothing. The pull thus exerted always tends to increase the deformity by simply approximating the points of attachment. These instruments are the oldest type and are to be condemned. The principle underlying the second series of apparatus is that of lifting the weight of the shoulders and head, either or both, upward by braces and plates taking their point of advantage on the pelvis. In this class belong all types of appliance which do not seek also to correct deformity. Such as combine support and correction, belong to the third lot, most modern and approved. They all possess screws, bands, pads, braces and such contrivances for overcoming the displacements and for imposing their own upon the body outline. The purely supportive devices have a wide field and may be used in many cases, provided the patient be under massage, light gymnastics and breathing exercises, to prevent the atrophy of rest which might cause an accentuation of the disease by removing some of the support of the corset or jacket due to the falling of the body away from it. It is impossible in any portable device to secure the same amount of extension and correction as in the stationary. It is beyond the powers of the soft parts to stand the strain of overcorrection by any apparatus, which would, indeed, be the full indication to carry out. But by the careful application of the third kind of brace much can be done. They may be made to act in scoliosis by rotation or torsion and by side pressure, as well as by the usual extension and vertical support from below. Pads properly placed along the rib-angle will correct much lateral deformity and adjustment most carefully of each device to the evident lesions will make this form of treatment far more efficient.

Gun-Shot Wounds.—Experiments have been undertaken in this subject by Kayser (*Beit. z. klin. Chir.*, Band 26, Heft 2) with the following conclusions: There is no destruction of infective matter adherent to the projectile; the length of the flight is not a factor; that in spite of penetrating obstacles the bullet may be infectious; that this may not be the case when the resistance and depth of penetration have been considerable; after traversing dirty material the bullet is always infectious in spite of any other body pierced afterward; all wounds are theoretically infected though practically the body-resistance makes this danger slight. Nevertheless the open treatment of all wounds is the safer and better for both practical and theoretical considerations.

Retropharyngeal Abscesses.—Small difficult central or lateral foci in this region are approached, evacuated and drained very successfully by Schmidt (*Deut. Zeitschr. f. Chir.*, Band 55, Heft 1—2) as follows: The incision is along the inner border of the sternocleidomastoid muscle, which is strongly retracted after exposure, and the path to the retropharyngeal space is made outside of and behind the internal jugular vein.

Pathology and Therapy of Basedow's Disease.—Despite the many researches on thyroid disease, there are many important factors concerning exophthalmic goiter which have to the present time defied the investigators. F. Dinkler (*Münch. med. Woch.*, May 22, 1900) describes a unique case in which all the symptoms were extreme and were accompanied by grave nervous disturbances such as choreiform movements, hemiparesis and psychical changes. Similar cases had previously been carefully examined with the view of finding anatomical lesions in the nervous system to explain the symptoms, but without success. The author, however, by a modified Weigert stain has been able to demonstrate a degenerative process in the motor area and tract and thinks that this is the rule in Basedow's disease. The thyroid gland he has found to consist of solid acini packed with cells and with but little interocinous connective tissue between them, in which there may be cell-masses resembling the newly-formed canaliculi of cirrhosis. In other severe cases these changes were less marked, but the thymus showed a lymphatic

hyperplasia. It is possible that in these patients the thymus possessed functions similar to those of the thyroid especially since it has been previously discovered that both have an analogous physiological action when taken internally. In both sets of cases a well-developed dilatation of the capillaries and venules was found. The surgical treatment of exophthalmic goiter has come into vogue and by it life has been saved in some severe cases; on the other hand, in many the prognosis has been rendered more serious by surgical intervention. The author thinks the time has not yet come to definitely decide upon the indication and value of hemi-extirpation.

Nasal Reflexes.—Some years ago Rosenberg advocated cocaine spraying of the nasal mucosa before general anesthesia in order to prevent the irritation of the nerve-endings of the trigeminus nerve; which latter occurrence frequently called forth inhibition of the vagus and of the respiratory center in the medulla oblongata. If the cocainizing is properly done, said Rosenberg, these reflexes are not called forth and so the giving of an anesthetic, chiefly chloroform, is made much safer. F. Bruck (*Berlin. klin. Woch.*, May 14, 1900) now comes forth and denies that the cocainized parts of the nasal mucous membrane become anesthetic and, furthermore, that such a process never extends to the entire mucosa. Bruck finds three minutes after such cocainizing that the membrane still reacts to irritation. In not a single instance of the many trial cases did he obtain "certain and complete anesthesia," as maintained by Rosenberg. Bruck claims that the cocaine can only act upon a membrane free from mucous secretion. Therefore, would it be absolutely necessary to use rhinoscopy in order to clear completely the nose of its mucous secretion before cocainizing. However, there are so many crevices and corners and folds in the nasal mucosa, which it is practically impossible to reach with the spray, that a complete cocainization of the lining membrane of the nose is virtually impossible. That the marked decrease in the activity of the reflex occasioned by only a partial anesthesia of the mucous membrane diminishes the danger of chloroform narcosis, Bruck admits; but would it not be better and simpler, declares he, in order to prevent the irritation of chloroform vapor on the nasal mucosa, to stop both nostrils with cotton during anesthesia? He agrees fully with Rosenberg in the statement that the chloroform vapor awakens a reflex from the nasal mucous membrane which affects both the vagus and the respiratory center. The experiment which was made confirmed him in this view. A rabbit was chloroformed at first through the nose and later entirely through a tracheal cannula. At first both breathing and pulse-rate were deeply affected, whereas in the later attempt both remained perfectly normal. If the nostrils are occluded with cotton it certainly becomes a more difficult feat to administer chloroform for the mouth-breathing must be most carefully watched. Extraordinary care must be exercised to prevent the falling-back of the tongue during the narcosis. Meanwhile, in the light of further investigation, it may possibly be found that this increased difficulty of technic is more than counterbalanced by the extreme danger that chloroform anesthesia assumes when the vapor is allowed to act on the nasal mucous membrane.

Case Mistaken for Aortic Aneurism.—Although aortic aneurism is the most usual form of mediastinal growth, almost typical signs of that condition may sometimes be mistaken, as shown by a case reported by F. Griffith (*N. Y. Med. Jour.*, June 2, 1900). The patient was followed for about fifteen months, gradually developing signs and symptoms of pressure in the mediastinum. Marked dulness, pulsation and thrill were present over the anterior upper and left chest. Pain was sharp and lancinating. There were dyspnea, dysphagia, whispering voice, paralysis of left vocal cord, sharp cough, and unilateral symptoms of sweating and edema. Radial pulses and pupils were unequal and tracheal tugging was present. A radiograph taken gave negative results. The temperature ranged between 97.4° and 99° F. There were no night-sweats, excepting at times on the head. Dulness over the left apex seems to have been the only sign of pulmonary trouble. The autopsy showed the upper half of left lung collapsed and its position occupied by a large tuberculous cavity, containing about three ounces of bloody fluid holding cheesy masses. A large mass of mediastinal glands, the size of two fists, was present, in which were imbedded the arch of the aorta, the esophagus and bronchi. The heart was normal but small and the aorta was intact.

Therapeutic Advantages of Ferratogen.—Ferratogen differs from all other organic iron compounds in the peculiarities of its manufacture. As stated by M. Cloetta (*Münch. med. Woch.*, May 29, 1900), yeast is grown on a medium containing iron; the nuclein thus formed is isolated, digested with gastric juice and washed with alcohol containing some hydrochloric acid. There results an insoluble yellowish powder which is not affected by gastric juice and which contains as much as one per cent. of iron. Although pancreatic digestion in vitro is slow, it is well absorbed in the living small intestine. The author considers absence of gastric irritation the most important property of a ferruginous preparation and thus awards a high rank to ferratogen, since this passes the stomach without change.

Neurasthenia and the Rest Cure.—The employment of the rest cure for nervous complaints is rapidly increasing. Establishments for this trouble are springing up in great numbers. Besides those who have taken the treatment under professional advice, numbers are met with who have done so at the solicitation of friends or at

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their own discretion. F. A. McGrew (*Jour. Am. Med. Assoc.*, June 9, 1900) fears that this useful form of treatment will come into disrepute unless there is a more definite knowledge of its proper use and limitations. To this end there must be a working scientific basis substituted for the present haphazard way of disposing of troublesome neurasthenic patients. The writer classifies neurasthenia under three heads, *viz.*: (1) Developmental neurasthenia. (2) Overstimulation neurasthenia. (3) Developmental plus overstimulation neurasthenia. Developmental neurasthenia occurs in persons who have a constitutional nerve weakness from the cradle up, and in those who inherit the neurasthenia from degenerate parents. Sometimes it is due to some adverse influence during fetal life; to some disorder of nutrition during the developmental period; to some accident of labor; to unhealthy environment and habits during the formative years of childhood. In these nervous children there is an instability and imperfect balance characterizing the activity of the brain and cord, and while they are unable to sustain prolonged exertion, there is often an unusual cleverness of thought and action. The person, who eventually suffers from developmental neurasthenia, is usually remarkably healthy in appearance, but complains of chronic fatigue. The symptoms are numerous, various and indefinite, but are all associated with exertion and the fatigue following it. She appears well-nourished but her muscles are flabby, her respiration insufficient, her heart-action weak; she has a languid air, and, in short, her nerves and muscles are without tone. It is very evident that such a patient does not need rest, but exercise to develop and strengthen every part of her system. A course of physical training should be instituted gradually and carried out very carefully. Hydrotherapy and massage should be added to the physical culture, and a change of diet and surroundings is beneficial. Overstimulation neurasthenia occurs in persons who are born with normal nervous strength, but whose habits of life end in the exhaustion of their inherited nervous vitality. To this class belong the business man who has much worry, sleepless nights and hurried days, until the brain tires and the nerves are irritable. Those who are underfed and overworked, those who are always "on the go," and, in fact, all who overwork in any way are apt to suffer finally from overstimulation neurasthenia. Nervous prostration is the result when the collapse at last comes. In such cases complete rest is needed and food for the wasted tissues. The rest cure is the treatment *par excellence* for the neurasthenic of habitual overstimulation. In addition to complete rest and feeding, there should be given some sedative and nutritive treatment consisting of general massage with passive movements, abdominal massage, hot spinal fomentations, saline spongings and general faradism. The writer discusses the treatment of some of the more frequent symptoms of this form. The third class of neurasthenia consists of a combination of the first two. The treatment of this form is indicated by the prominence of the developmental or the overstimulation element, and often a judicious combination of exercise and rest is necessary.

Surgery of Acute Rheumatism.—A. T. Bristow (*Brooklyn Med. Jour.*, June, 1900) believes rheumatism to be an acute infectious disease and, therefore, in many cases it demands surgical treatment. Where there is much effusion into the joints the absorbed toxic products cause the serious constitutional symptoms. Not infrequently the toxemia is less prominent, especially in the chronic cases, but the injury to the joint surfaces is greater. Therefore, there may be two distinct reasons for surgical interference in rheumatism; an obstinate effusion which intoxicates the system; or a chronic effusion which endangers the usefulness of the affected joint without causing much systemic disturbance. A third reason would exist if we could show that prompt drainage lessens the chances of heart lesions. The only statistics on the subject are those of O'Conor of Buenos Ayres, whose results have been so good that he has abandoned medication and now opens and drains a joint as soon as the diagnosis is made. Bristow believes this to be too radical, but proposes surgical interference in those cases in which operation is the patient's best chance and in which it is more dangerous to wait than to operate, and in those chronic cases where it is worth while to assume some risk to restore the patient's earning capacity.

Cholecystectomy.—C. L. Gibson (*Med. Record*, June 9, 1900) calls attention to the advantages of cholecystectomy under certain conditions. He believes this operation to be indicated in all cases of cholecystitis with or without stones, provided the bile ducts are not obstructed, and that the bladder itself can be removed without too great difficulty. It is also to be done even in difficult cases when the bladder is so situated or so retracted as to prevent safe drainage after incision, and also a prophylactic measure against malignant disease in the presence of long-standing irritation. The gall-bladder is of little physiological importance. Its extirpation under the above conditions presents the following advantages. It is safe and usually not difficult; convalescence is brief and devoid of the discomforts of discharging bile; biliary fistula is prevented; the cure is radical, for the disease focus is abolished; the attacks of pain often recurring in diseased gall-bladders after cholecystotomy are avoided; the pains and digestive disturbances due to adhesions with other viscera are avoided.

Hay Fever.—

℞ Cocainæ hydrochlorat.....gr. viii
Pulv. camphoræ.....gr. xvi
Bismuthi subnitrat.....ʒii.
M. Sig. External use.—*Maragliano.*

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SATURDAY, JUNE 23, 1900.

SMALLPOX IN THE UNITED STATES.

DURING the four and one-half months from January 1st to May 18th there occurred, according to the official reports of the United States Marine Hospital Service, more than 10,250 cases of smallpox in the United States. This is about one and one-half as many cases of the disease as were reported during the corresponding period of last year. We took occasion at that time to give a word of warning with regard to the spread of the disease. The warning seemed, perhaps, more pertinent to Northern and Eastern readers, since the series of epidemics in Pennsylvania and in Virginia were the features that attracted general attention. This year, however, the prevalence of smallpox at many widely separated points throughout the country makes obvious the necessity for a determined, universal effort for its eradication. Severe epidemics in Louisiana, Tennessee and North Carolina, have served to swell the statistics quoted, but the reports show that there are dangerous foci of the disease more widely distributed than formerly, and as the prosperous times make communication between different parts of the country more intimate than ever before, the peril from the farther spread of the disease is greatly increased.

The fact that the great body of general practitioners of medicine at the present day have no personal familiarity with smallpox accounts largely for the proportions the present epidemic has attained. Diagnosis is apt to be made comparatively late in the disease. Not only that, but suspicions of the character of the affection under treatment is aroused only when it is well developed. During the preliminary stage, before the characteristic eruption manifests itself, smallpox is conceded to be but slightly contagious. If suspicion of the character of the disease is awakened before the exanthematic period, even although final diagnosis may not be possible, the spread of the affection will be practically prevented by keeping the patients segregated from friends and others. Care in this matter and more active attention to vaccination in adult-life will undoubtedly stamp out the disease completely in a few years.

Up to the time when influenza became endemic in this country there were certain symptoms of beginning smallpox that had much more diagnostic significance than they now have. The splitting headache, the intense backache and the abrupt high fever, so characteristic of the onset of the affection, were pathognomonic of smallpox. The old text-books had it that these symptoms occurred in all the infectious fevers, but not with the intensity or suddenness they develop in smallpox. Certain epidemics of influenza, however, present these symptoms quite as characteristically. He would be an extremely confident diagnostician who in our day would pronounce a case to be smallpox *sine exanthemate* on the strength of these symptoms alone, even although other cases of smallpox were in the neighborhood. Such a diagnosis was thought justifiable, however, twenty years ago and these symptoms must at least always awaken suspicion of smallpox whenever sporadic cases have been reported in the immediate vicinity.

Preliminary rashes are frequently noticed in smallpox cases, and should arouse suspicion of the nature of the disease under treatment, especially if abrupt febrile temperature and severe aches are coincident. These rashes are erythematous and are spoken of as scarlatinaform, sometimes morbilliform in character. That resembling scarlatina rash is most common and occurs especially on the lower part of the trunk, in the groins, and along the sides of the trunk, espe-

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cially in the axillæ. As true scarlatina also frequently appears first in these locations it must be excluded by the history. Unlike measles scarlet fever seldom recurs, so that the history of one attack conveys definitive information. The preliminary erythema of smallpox often follows the course of certain nerves. It has been noted in certain epidemics to occur especially on the external surface of the leg, affecting particularly the skin over the extensor hallucis muscle. A pathognomonic preliminary rash is pointed out by certain German observers. It consists of red hemorrhagic spots that are found especially in what is called the leg-navel triangle, that is, in the space included within imaginary lines drawn from a point between the knees to meet a line passing horizontally through the umbilicus. These spots blanch slightly on pressure, but do not disappear. Unfortunately, this eruption, which often occurs two or three days before the general macular eruption of smallpox, is not found in all, but only in somewhat less than one-half the cases. In certain epidemics, however, it is very constantly present.

Two diseases are likely to be confounded with smallpox in its initial stages. They are measles and chicken-pox. The eruption of smallpox begins with maculæ that are not unlike those of measles. To realize more thoroughly this similarity of beginning, it is only necessary to recall that for centuries the two diseases were confounded. The initial fever and aches of measles are less than those of smallpox, while the catarrhal symptoms are much more severe. Chicken-pox is usually easy to differentiate, but in exceptional cases the resemblance is very marked. Severe chicken-pox has often been mistaken for mild variola in the old days of the prevalence of smallpox. In recent years even experts have been known to diagnose mild smallpox as chicken-pox. The Vienna school has never given up the contention that the two diseases are essentially the same. Professor Senator in Berlin says that the introduction of a case of smallpox into Berlin is usually followed by an epidemic of chicken-pox. Varicella, to his mind, seems to be a variola modified by generations of vaccination and better hygienic surroundings with increased resistance to disease invasion. The pathognomonic distinction between varicella and variola is the fact that, at an early stage of varicella, lesions in all stages, macular, papular, vesicular, clear and cloudy, are to be found. In smallpox the lesions are simultaneously in the same stage, as a rule.

If attention were paid to the exact and immediate diagnosis of cases that may prove to be smallpox the spread of the disease could be absolutely limited. The present state of affairs—an increasing mortality from smallpox—is due to two things that the physicians of the country have it in their power to remedy. The one is, as we have said, lack of assurance in diagnosis; the other is the neglect of renewal of vaccination among adults. It will not require much attention to eradicate both evils if the work is taken up seriously. Let us begin the twentieth century in a manner worthy of the hundred years of vaccination that have just been accomplished.

The courts are steadily lending their support to health boards and school boards in their insistence on the necessity of vaccination. In Philadelphia at the present time a citizen is testing before the courts the right of the public school officials to compel all pupils of the public schools to take such precautions as they may prescribe. The Supreme Court of the State of Pennsylvania rendered a decision in a similar case in 1894 in which the subject was discussed as follows:

"It should be borne in mind that there is no effort to compel vaccination. The school board do not claim that they can compel the plaintiff to vaccinate his son. They claim only the right to exclude from the schools those who do not comply with such regulations of the city and the Board of Directors as have been thought necessary to preserve the public health.

"Is the regulation now under consideration a reasonable one? That is to be judged of, in the first instance, by the city authorities and the school board. It is only in the case of an abuse of discretionary powers that the Court will undertake to supervise official discretion. Vaccination may be or may not be a preventive of smallpox. That is a question about which medical men differ and which the law affords no means of determining in a summary manner. A decided majority of the medical profession believe in its efficacy. The municipal regulations of many, and, I have no doubt, of most, of the cities of this State and country provide for it.

"In the present state of medical knowledge and public opinion upon this subject, it would be impossible for a court to deny that there is reason for believing in the importance of vaccination as a means of protection from the scourge of smallpox. The question is not one of science in a case like the present. We are not required to

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determine judicially whether the public belief in the efficacy of vaccination is absolutely right or not. We are to consider what is reasonable in view of the present state of medical knowledge, and the concurring opinions of the various boards and officers charged with the care of the public health.

"The answers of the city and the school board show the belief of the proper authorities to be that a proper regard for the public health and for the children in the public schools requires the adoption of the regulation complained of. They are doing, in the utmost good faith, what they believe it is their duty to do, and, though the plaintiff might be able to demonstrate by the highest scientific tests that they are mistaken in this respect, that would not be enough. It is not an error in judgment or a mistake upon some abstruse question of medical science, but an abuse of discretionary power, that justifies the courts in interfering with the conduct of the school board, or setting aside its action."

AMERICAN FESTSCHRIFTS.

THE idea of a Festschrift seems to have struck almost as simultaneously as forked lightning in three medical centers of America. First, in chronological order of publication, came the Festschrift to Dr. Jacobi which has already received extended notice in our columns. This was promptly followed by a volume of scientific papers emanating from the students of Dr. William H. Welch of Johns Hopkins, in commemoration of the twenty-fifth anniversary of Professor Welch's doctorate. We are just in receipt of a similar volume composed of contributions from the William Pepper Laboratory of Clinical Medicine, the work of men who have received their training in, or are connected with, the Pepper Laboratory.

The Welch Festschrift is a most imposing volume, beautifully bound and illustrated by some of the most artistic work that has ever emanated from Johns Hopkins. The articles themselves cover a wide range of subjects. Many of them are devoted to questions usually classified as pure science, but in the rapid strides of medical progress their observations and conclusions may be assimilated at any time and afford practical working basis for surgical or medicinal therapeutics. Among those devoted to practical subjects may be mentioned: "Urea and Some of Its Physiological and Pathological Relations," by C. A. Herter; "Some Observations Upon the Anatomy of the Gall-Bladder and Ducts," by George E. Brewer; "Experimental and Surgical Notes Upon the Bacteriology of the Upper Portion of the Alimentary Canal, etc.," by Harvey Cushing and Louis E. Livingood; "The Origin, Development and Degeneration of the Blood-Vessels of the Human Ovary," by John G. Clark; "The Gonococcus," by Hugh H. Young.

The presentation of the volume was celebrated at a complimentary dinner held at the Maryland Club, Baltimore, on the evening of May 4, 1900. Not the least interesting feature of the exercises was the description by Professor Councilman, who made the presentation, of the environment in which the work of Johns Hopkins Laboratory has been prosecuted. This has special application to the discussion that is going on just now regarding the New York State Pathological Institute. Dr. Councilman said: "The work has been in a broad field, and the workers have had a clear sky above and fresh breezes around them." These are the essential conditions of success of research work which Dr. Councilman, unfortunately, has been using his influence to suppress in connection with the Pathological Institute.

In the memorial volume of the William Pepper Laboratory, which is also artistically illustrated, we find among the more strictly laboratory articles the following practical subjects: "A Fatal Case of Sulphonal Poisoning," by Alonzo Engelbert Taylor and Joseph Sailer; "The Pathology of the Erythrocyte," by Alfred Stengel; "The Influence of Immoderate Water-Drinking Upon Metabolism and Absorption," by D. L. Edsall; "The Etiology of Appendicitis," by Charles H. Frazier; "The Etiology of Pertussis," by Joseph Walsh.

These volumes would be a most valuable addition to every medical library of the country. The editions are limited, and we have not been informed how generally they may be obtained.

ECHOES AND NEWS.

NEW YORK.

Congress of Scientific Men.—The local committee of the American Association for the Advancement of Science has made elaborate preparations for the reception of those who will attend the convention of the Association this week. The sessions will be held at Schermerhorn Hall, Columbia University, the American Museum of Natural History and the Hotel Majestic. The ex-

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ercises will begin at the Majestic Hotel at noon on Saturday, June 23d.

Dr. Banta Reinstated.—Dr. Francis M. Banta has resumed active duty as medical officer of the Fire Department. Dr. Banta, who was appointed a medical officer of the fire force by the Republican Fire Board in place of a Tammany physician, was in turn removed by Fire Commissioner Scannell. The physician appealed to the courts. The Supreme Court ordered his reinstatement. An appeal was taken, and the Appellate Division of the court affirmed the finding of the lower tribunal.

Officers of the County Association.—At the annual meeting of the New York County Medical Association, held Monday evening, June 18th, the following officers were elected for the ensuing year: President, Parker Syms, M.D.; first vice-president, J. Riddle Goffe, M.D.; second vice-president, Emil Mayer, M.D.; recording secretary, Ogden C. Ludlow, M.D.; corresponding secretary, J. W. Draper Maury, M.D.; treasurer, Charles E. Denison, M.D.; member of the executive committee, for 3 years, Frederick Holme Wiggin, M.D.

St. Vincent's Hospital Alumni.—Some thirty graduates organized the Alumni Association of St. Vincent's Hospital on the evening of June 17th, at the home of Dr. Charles H. Lewis, at 47 West Fifty-eighth Street. The officers chosen are: President, Dr. Charles H. Lewis; vice-president, Dr. Charles L. Weeks; secretary, Dr. Joseph A. Dillon. The Association will meet four times a year.

St. Vincent's Motor Ambulance.—The new automobile ambulance of St. Vincent's Hospital, which cost $3000, had its first regular run on June 13th. The power is supplied by a storage battery and the vehicle is equipped with the usual ambulance paraphernalia.

New Hospital for Crippled Children.—The residence of Dr. Angell, Paulding Avenue, on the Hudson River near Tarrytown, has been leased by the Board of Managers of the New York State Hospital for the Care of Crippled and Deformed Children. Changes necessary to equip the building for hospital use will be made at once, and the hospital will be opened early in the autumn. The following physicians were elected members of the Consulting Medical Board: Drs. Francis Delafield, Robert F. Weir, W. Gilman Thompson, Joseph D. Bryant, Lewis A. Stimson, A. Alexander Smith. Reginald H. Sayre of New York, Roswell Park of Buffalo, and L. A. Weigel of Rochester.

Contagious Diseases.—For the week ending June 16, 1900: Measles, 392 cases and 17 deaths; diphtheria, 288 cases and 53 deaths; laryngeal diphtheria (croup), 9 cases and 4 deaths; scarlet fever, 114 cases and 9 deaths; chicken-pox, 47 cases; tuberculosis, 182 cases and 167 deaths; typhoid fever, 32 cases and 12 deaths; cerebro-spinal meningitis, 4 deaths; totals, 1064 cases and 266 deaths.

Tuberculosis Tests of Cattle.—The report of the Tuberculosis Committee of the New York State Board of Health for the month of May, which was submitted on June 19th, shows that among 1075 head of cattle which were subjected to the tuberculosis test, 36 were condemned and 6 destroyed. Since January 1st 1443 head of cattle have been tested, 84 condemned and 52 destroyed. Of the total number tested 1242 were grades or common stock, 80 were Holsteins and 70 Jerseys. About 1000 head of cattle in Syracuse still remain to be tested. Thus far but 1 per cent. has been condemned, which should prove conclusively that the first test, made a year ago, which resulted in the condemnation of about 5 per cent. of the entire number, was well done and that the diseased animals condemned were pretty thoroughly disposed of.

Walter Duryea Leaves Roosevelt.—Dr. Abbé's patient, Walter E. Duryea, left Roosevelt Hospital on June 19th after a stay of ten months. He was taken away in a carriage ambulance from the roof of which his litter was swung by leather slings. A surgeon and a nurse accompanied him. He was taken to Hoboken, where a sleeping-car which had its stateroom window removed awaited him. Mr. Duryea was lifted through this window, litter and all. He was taken to a private sanitarium in Danville. His physicians are sanguine of his ultimate recovery.

PHILADELPHIA.

Health Report.—Deaths in the city for the week ending June 16th were 455, an increase of 44 over those of the previous week and of 32 over the corresponding week of last year. Contagious diseases: Diphtheria, 83 cases, 12 deaths; scarlet fever, 73 cases, 3 deaths; typhoid fever, 40 cases, 13 deaths; smallpox, 1 case.

University Commencement.—The 144th annual commencement of the University of Pennsylvania was held June 13th. Of the 550 degrees conferred, 180 were Doctor of Medicine, 145 Doctor of Dental Surgery, and 11 Doctor of Veterinary Medicine. The address to the graduates was given by Acting President, Wm. L. Prather of the University of Texas.

Diet-Kitchen for Children.—A diet-kitchen for infants and children is being established at the Rouse Mission of the Trinity Episcopal Church, at Thirty-second and Wallace Streets, under the medical direction of Dr. George T. Palmer. Dr. Marcus P. Hatfield will be the consulting pediatrician. The kitchen will be open daily under the supervision of the trained nurses of St. Barnabas Guild.

The American Laryngological, Rhinological and Otological Society.—At the final session papers upon "Nasal Synechia" were read by Drs. Price Brown of Toronto, Can., and M. D. Leder-

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man of New York. The former said that synechia are often the result of the rhinologist's trauma. Another cause is the freedom from post-operative pain in many cases, the patient thinking that the operation itself only is of importance and ceasing his visits before healing has sufficiently advanced to prevent the formation of synechia. They should be warned regarding this. The electrogalvanic cautery is the instrument most apt to be followed by synechia, but this statement is not meant to condemn a most useful instrument as some speakers have done. He keeps the parts separated after an operation by cotton-wool or rubber sheeting, gauze not being liked for this purpose. An absorbent cotton tampon has been left in place for ten days without giving distress or becoming offensive. Dr. Lederman uses surgical sponge or spunk for a separating-tampon after operation. This he finds to act well also in controlling hemorrhage.

In the discussion Dr. J. A. Stucky of Lexington, Ky., stated that in his experience more systemic trouble results from the removal of synechia than from any other nasal operation. He prefers keeping the patient in a hospital for two or three days before operating. Dr. While of Richmond uses as a separating material guttapercha, such as dentists use. This can be molded to any desired shape. The cases that give him the most trouble are the dense osseous synechia high up between the turbinate and ethmoid.

Dr. Wm. H. Dudley of Easton, Pa., read, by invitation, the history of a case of cerebral abscess following chronic otitis media, with recovery after operation. The patient was a Bohemian and but little history could be obtained. As the symptoms warranted operation, the mastoid was opened. The bone was dense and no granulation tissue was found. The skull was then trephined and, after several punctures in the temporosphenoidal lobe had been made, one-half ounce of seropurulent fluid was obtained. This fluid contained pus-cells and broken-down brain-cells. The patient was violent for some days after operation and had to be tied to the bed. On the twenty-eighth day he was allowed to sit up and on the fifty-sixth day left the hospital. This was two and a half years ago. The man's intellect now seems as good as formerly.

Dr. C. P. Linhart of Columbus, Ohio, reported a case of peculiar enlargement of the turbinals. The growth had been pronounced sarcoma by two surgeons. The patient was sent to New York where the whole of the right inferior and part of the middle turbinal were removed, the growth not being thought a sarcoma, however. The wound did not do well and in a few weeks the inferior turbinal on the left side became enlarged. The patient was then given iodide of potassium in increasing doses with almost immediate improvement and the later practical disappearance of the affection.

Dr. F. H. Koyle of Hornellsville, N. Y., gave a brief report of a case of tic-douloureux. The patient had an early history of unilateral hydrorrhea, this changing from side to side. An exostosis protruded into the right nostril and the right antrum was dark on transillumination. The antrum was opened through the canine fossa, but no cause for the neuralgia was found. Ocular origin was then inferred and the patient found to have astigmatism and heterophoria. These defects were corrected and the neuralgic attacks decreased, entirely disappearing in six months. The case was reported as one due to reflex action from ciliary ganglia irritation.

CHICAGO.

Northwestern University.—The trustees of this institution have decided to continue the medical schools for men and women as separate institutions.

Alumnæ of Woman's Medical School.—The Alumnæ Association of the Northwestern University Woman's Medical School recently held its twentieth annual meeting, at which action was taken towards the establishment of two memorial fellowships, one for the Chair of Physiology in memory of the late Dr. F. A. Wadsworth, who was Professor of this Chair at the time of his death, and the other for advanced work in the Chair of Gynecology, to be known as the Dyas Memorial Fellowship. The following officers were elected: President, Dr. Marion Kelly Bowles, Joliet, Ill.; first vice-president, Dr. Hezediah Crabtree, Chicago; second vice-president, Dr. Anna White Sage, Chicago; secretary, Dr. Eliza H. Root, Chicago, and treasurer, Dr. Caroline C. Hollister, Chicago.

Association of Visiting Nurses.—This Association cared for 542 patients during the month of May. The nurses made 2510 visits. The work of the Association, it is said, covers a larger ground than any similar organization in the country. The emergency staff of untrained women gives care to hundreds of persons unable to pay for the services of graduate nurses.

Will of Dr. Miller.—The will of the late Dr. Truman W. Miller was filed for probate a few days ago. Dr. Miller left an estate valued at $175,000.

Suicide of Dr. Locke.—Dr. Robert Locke, a graduate of Rush Medical College, and for a time associated with the late Dr. James H. Etheridge, shot himself through the heart in his room June 8th, at the Occidental Hotel, in San Francisco.

Samaritan Hospital.—This hospital was recently opened, and hereafter accident cases requiring immediate attention may be taken to this hospital instead of a long trip to the County Hospital, or other institution equally distant from the business center.

Physical Test for School-Teachers.—Dr. Julia Holmes Smith, Dr. Sarah Hackett Stevenson, and Dr. Florence Hunt have been notified of their appointments to examine applicants for admission to the normal school, and arrangements will be

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made for physical tests. Dr. W. S. Christopher, who is the originator of the idea, believes that the great fault of the school system of to-day is that many of the teachers have not the physical strength to enable them to teach properly. The only way to remedy this defect is to provide the proper physical test before entering the normal school. If any of the applicants fail to pass the first examination, a second will be held. This plan is heartily approved, and it is believed that it will be of great value both to the teachers and to the pupils.

Metropolitan Medical College.—Post-Office Inspector Gould has received instructions from Washington to withhold all mail addressed to this fraudulent institution, or alleged "diploma mill," or to any of the men who have recently been arrested for connection with it.

Proceeds for Consumptive Hospital.—The officers of the Citizens' Committee for the erection of a hospital for the treatment of consumptives under the auspices of the Sisters of St. Elizabeth Hospital recently held a meeting and reported having received donations amounting to $19,064 to date.

Public Health Matters.—The death returns for the past week are the lowest recorded for a similar period since the week ended November 3, 1899. Consumption shows the greatest reduction in the number of deaths, there being but 35 during the week, as against 60 the week preceding and 50 the corresponding week of 1899. The unsatisfactory feature of the public health is the continued prevalence and high mortality of the contagious diseases of children—diphtheria, measles, scarlet fever, and whooping-cough. It is barely possible that the great decrease in the impure-water diseases since the opening of the drainage canal is merely a coincidence, but a comparison of the first five months of each of the ten years between 1890 and 1899, with the first five months of 1900, strongly indicates a relationship of cause and effect.

GENERAL.

Dentists at the International Congress.—Dentists not doctors in medicine will be enrolled as members of the Congress in the Section on Stomatology. This corresponds with the arrangement made by the American Medical Association.

Photography in Embryology.—A novel use of photography in embryological investigation has recently been made by Professor G. Farro. He has succeeded in registering the movements of the heart of an embryo chicken three days after its formation.

Malaria in the Philippines.—Malarial fever has been prevalent since April in parts of Cavite and Batangas Provinces, which are garrisoned by the Forty-sixth and Thirty-ninth Regiments. Thirty per cent. of the men of each regiment are on the sick-list. Of two battalions in Batangas Province, one has 150 sick and the other 190.

Nautical Hygiene.—Liverpool and London have for some time supported establishments that are specially devoted to promoting the health of seamen and to studying and treating the diseases to which mariners are peculiarly liable. Germany has now followed this excellent example and has established the Hamburg Institute for the study of nautical hygiene. Many of the old-time diseases, such as scurvy, night blindness, the so-called ship anemia, and chronic ailments of the digestive organs, if not yet quite extinct, have become rare. A series of new diseases has taken their place and are now having the attention of the medical faculty. In order to deal with these diseases such as malaria, beriberi, blackwater fever and other tropical disorders, special hospitals are needed at the large ports.

Bad Risks.—The Supreme Lodge of the Knights of Honor, in session at Buffalo on June 16th, voted to exclude Christian Scientists and Faith Curists from the order. Such persons are considered bad risks and the lodge does not care to insure them.

The Oxford University Degree.—Prof. James Mark Baldwin, Stuart Professor of Psychology in Princeton University, Prof. Charles E. Morton, of Harvard, the Rev. Dr. Morgan Dix, of Trinity Church, New York, and Prof. Charles F. Chandler, of Columbia University, will receive degrees from Oxford University this year. Professor Baldwin, who is now abroad, is engaged in editing the dictionary of psychology which is being published in England. He has also been honored by election to the French Institute of Sociology.

Obituary.—Dr. George M. Blakes died June 15th, in Bloomingburgh, N. Y., in his sixty-eighth year. He was graduated from the medical department of the University of New York. He served during the Civil War as a surgeon in the Fifty-sixth New York Volunteer Infantry. In politics he was a strong Democrat and was appointed examining surgeon from that district under both Cleveland administrations.—Dr. Burke Pillsbury, a prominent physician, died in Middletown, N. Y., June 16th, from the results of an operation. Dr. Pillsbury had devoted much attention to the study of tuberculosis, and was a member of the Tuberculosis Congress of Paris.

Hospitals Must Pay Duty.—Under a decision announced on June 13th, by the Board of Classification of the United States General Appraisers, hospitals are not entitled to import surgical instruments free of duty. Philosophical and scientific apparatus, utensils, instruments and preparations, which are imported not to sell but for an institution established "solely for religious, philosophical, educational, scientific or literary purposes" are admitted to free entry. The Mas-

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sachusetts General Hospital had protested against the action of the Customs authorities at Boston in assessing duties on a lot of surgical instruments recently imported. The hospital has educational features, in that it trains nurses and gives clinical instruction to medical students. The Customs authorities decided, however, that these educational features are merely incidental to the main purposes of the hospital.

The Plague.—Last week we recorded the fact that the courts of San Francisco had failed to support the Board of Health in its effort to maintain a quarantine cordon about the Chinese quarters. The quarantine has therefore been abandoned and the Chinamen have made haste to get beyond the bounds of Chinatown and scatter themselves throughout the city and the State. The Marine Hospital Service thereupon attempted, under the provisions of the Interstate Commerce act, to establish quarantine at the State line and allow no Asiatic to pass beyond the limits of the State, without a certificate of health. This order however was promptly rescinded. The whole matter has reduced itself to the quarantine of individual cases. As there has been no occasion during the week to apply this precaution, excitement is gradually subsiding. Advices by steamer, Vancouver, B. C., June 15th, say that the plague is steadily increasing in Australasia. Many cases are reported in the colony of Victoria, which started in the slums of Melbourne. In Sydney there continue to be from four to six new cases daily and the percentage of deaths is high. In the city of Sydney there have been 239 cases to May 21st, eighty-two of which died. In Victoria there have been some 100 cases, and in Queensland fifty-eight.

The Australian correspondent of the *Lancet* writes: It is stated that the expenditure incurred by the Government in dealing with the plague amounts to approximately £30,000 a month. The work of prevention and extermination consists in quarantining areas in the city wherever cases occur and then employing the quarantined laborers in clearing out the filth that has been accumulating in them for years. The dwellings of "contacts" are thoroughly disinfected, mostly by the "formalin" process, and all persons in any way associated with plague cases are detained in quarantine for five days. The Government distributes free a special rat poison to all householders and sends round men to remove dead rats from premises free of charge. Many houses have been condemned and pulled down. A capitation reward is given for rats and an immense number have been destroyed. In connection with the mode of transmission of the disease Dr. Tidswell, the bacteriologists of the New South Wales Health Department has demonstrated the existence of plague bacilli in the alimentary canal of fleas taken from plague-affected rats. In all the colonies extermination of rats is being carried on most vigorously. In Victoria steps are also taken to prevent the introduction of rats from other ports in vessels. Every vessel must be kept four feet away from the wharf and all pipes, ports, and scuttles closed. All gangways and ropes, etc., by which rats might get ashore are to be kept in a sticky condition with tar and a constant supervision maintained by special watchmen. A special staff is employed in inspecting and seeing that regulations are carried out. Inoculations with Haffkine's serum are being freely employed.

At Port Said the condition remains unchanged, while at Juddah and along the Turco-Persian frontier the plague continues to spread.

CORRESPONDENCE.

THE PATHOLOGICAL INSTITUTE.

To the Editor of the MEDICAL NEWS:

DEAR DOCTOR:—In view of the great danger threatening the State Pathological Institute, I cannot refrain from adding a few words to the discussion which has been called forth. It is strange that this opposition to the work of the Institute should apparently have arisen in the house of its friends. A former Commission established the Institute on broad lines, and the results during its comparatively brief existence have been so important and substantial that psychiatrists and neurologists abroad and in this country have hastened to its support, when it was seen that its usefulness was to be curtailed. The work of the Institute has been accomplished despite the great difficulties always present in the investigation of mental phenomena owing to the intrinsic difficulties of the subject itself and to the fact that almost entirely new roads had in this instance to be opened. The signed protests presented in your last issue afford a remarkable testimony to the high estimation in which it is held. A strange condition is it, indeed, when we see the Commission in Lunacy trying to destroy its own child. The Committee appointed by the Commission in Lunacy to investigate the Institute have made a very inadequate report of its workings. From what I can learn little time was spent there, and the opinion of the Committee coincides with that previously expressed by the Commission too completely to be of value.

Some of the points made by it, however, have been refuted by the report of the work already done by the Institute. One point only I need here to refer to, that is the instruction of the staff of the various State Hospitals in the best methods of pathological research. This has been done in many instances and the Institute is always ready to receive such men for instruction whenever they can be spared from their duties. I have personally looked into the work of the Institute and know that not only has a large amount of pathological work been done but investigation from the clinical side has been always going on. Epilepsy, hysteria, amnesia, subconscious phenomena of abnormal life have been studied, the

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most advanced modern methods being followed. The choice of the material to be used must be left to the Director; he must be free to take it from the hospitals or from other sources. It is in this way only that some intelligent method of treatment for this class of cases can finally be evolved.

In conclusion allow me to emphasize my great regret that the usefulness of this Institute is now threatened by probable changes which, if carried out, will take away from it its opportunities for scientific investigation.

EDWARD D. FISHER, M.D.

No. 42 West 45th St., New York,
June 19, 1900.

OPINIONS OF REPRESENTATIVE MEDICAL MEN REGARDING THE PATHOLOGICAL INSTITUTE.

To the Editor of the MEDICAL NEWS:

DEAR SIR:—As a further indication of the estimate in which the value of the work of the Pathological Institute along its present lines is held, both at home and abroad, I send you for publication a few letters selected from many that have been received, some written independently and some accompanying the protests against the present steps that are being taken toward the crippling and subversion of our scientific work in psychiatry.

IRA VAN GIESON.

1 Madison Avenue, New York,
June 19, 1900.

DEAR DR. VAN GIESON:—I am heartily in accord with the purposes and work of the Pathological Institute and of the broad lines on which you have proposed to carry it on. I should consider it a great misfortune to have its work interfered with.

CHARLES L. DANA.

New York, May 15, 1900.

DEAR DR. VAN GIESON:—Please enter my name on one or both of the protests against the proposed destruction of your Institute. Your Institute has been held up and looked up to as an example of what should be done in every State, and, hence, I feel that any crippling of its efficiency is nothing more than a base assassination of scientific research in medicine.

F. G. NOVY.

University of Michigan, May 19, 1900.

[To Dr. Sidis.]

SIR:—I beg to advise you that I understand but imperfectly the question which you have addressed to me; but if it concerns the suppression of the Pathological Institute I profoundly deplore this suppression, having appreciated by the perusal of your "Psychology of Suggestion" the part which you have taken in it.

TH. RIBOT,
Editor of *La Revue Philosophique.*

Paris, May 22, 1900.
[Translated.]

MY DEAR DR. VAN GIESON:—I gladly sign the accompanying protest and only wish that I could be of the least influence in helping you. Your scheme is admirable and you have gathered around you a band of singularly brilliant workers.

I often find myself working along lines that are not commonplace and recognize how if one does this, one must be prepared to find the work not immediately appreciated. Do not, however, be discouraged, for this "Grenzgebiet" work is that which is assuredly the most inspiriting and the most valuable for our profession. I wish you all success.

J. GEORGE ADAMI.

McGill Medical Faculty, Montreal,
May 15, 1900.

DEAR DR. VAN GIESON:—Your letter of the 17th is at hand. I have taken much interest in the present controversy of the New York State Commission, in fact am quite familiar with the plan of those who are interrupting the good work of the Pathological Institute, and regret very much that the value of such scientific investigation is not universally recognized, and hope that you will be successful in your efforts. Inclosed please find protest, which I have signed.

THEO. KLINGMANN.

Pathologist to the Michigan State Asylums for the Insane,
Ann Arbor, Mich., May 19, 1900.

DEAR DR. VAN GIESON:—In looking over the Archives of Neurology I am much surprised by the interest and novelty of the studies. If anything should happen to your Laboratory I should regard it as the greatest misfortune that neurologists could encounter in this country. I do not know whether I am wise to say it, but I think the progress in the treatment of insanity has nearly stopped. In this respect there has been little or no gain during the last few years. Moreover, I am equally sure that asylum methods do not give the individual care which appears to me essential in the treatment of insanity.

I do not know whether this letter is one that you can use or not; my object in writing it is simply to state my individual belief in the value of the work done by yourself and your assistants.

S. WEIR MITCHELL.

Philadelphia, May 10, 1900.

DEAR DR. VAN GIESON:—I enclose a protest against the crippling and destruction of the work of the Pathological Institute of the New York State Institution in Lunacy with my signature attached. I signed the paper with much pleasure and only hope it may prove of some slight use to you. I am surprised and intensely disappointed to think that there could be any move on the part of any members of our profession towards hampering the work of an institution which has done the amount of careful, earnest, scientific work which I believe your Institute has done. I earnestly hope this work may not be interfered with.

JO. H. LINSLEY.

Vermont State Board of Health, May 19, 1900.

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DEAR DR. VAN GIESON:—I think that I fully appreciate the value of the work that you have been doing at the Pathological Institute, both in its relation to pure science and to psychiatry in particular. Your plans are not only broad and comprehensive in their scope, but are well devised to attain ultimately such results as are desired by all who are interested in psychiatry and who wish to see it placed on solid foundations.

Just such work as you have been doing must be done; the several rays from the various sciences must be gathered and concentrated upon the problems of psychiatry before any substantial progress can be made in their solution.

It will be an everlasting credit to the State of New York that it has fostered the inception of this most important work, but the shame will be even greater if it should fail to recognize the necessity for its maintenance as a civil responsibility.

WM. J. HERDMAN.

University of Michigan, May 19, 1900.

[To Governor Roosevelt from Prof. James of Harvard.]

DEAR GOVERNOR:—I am taking the liberty of meddling in New York State affairs by sending you a line touching my humble opinion of the importance of letting the Pathological Institute develop on its present lines peacefully for a number of years before it is judged.

I am told that Dr. Van Gieson meets with severe criticism in the profession and you will probably hear the work there called "cranky" by men of respectable judgment. So far as the *lunacy* work goes—that is the only part with which I am acquainted—I think it would be a real *calamity* to have any obstacles put in its path. Convincing results will doubtless come as fruits of the truly psychological observations that the Institute is now having made, if time is only allowed. It is probable that eventually the Institute may become quite *glorious* from what it is now doing. I know enough of the medical mind to have little esteem for its opinions when they are conservaative. I really believe that Van Gieson deserves support; and hope that you will not listen too confidingly to attacks on his methods.

WILLIAM JAMES.

Cambridge, Mass., February 11, 1899.

OUR LONDON LETTER.

[From Our Special Correspondent.]

LONDON, June 14, 1900.

THE POLYCLINIC—MR. JONATHAN HUTCHINSON ON THE "STORY OF ROBBEN ISLAND"—LEPROSY IN SOUTH AFRICA—THE SEGREGATION OF LEPERS A CRUEL INJUSTICE—THE ANTITUBERCULOSIS MOVEMENT—ESTABLISHMENT OF A SANATORIUM AT DUNDEE—MEETING AT LIVERPOOL—DEATH FROM A BEE-STING—LEAD-POISONING AND EMPLOYERS' LIABILITY.

A CONVERSAZIONE has been given at the Polyclinic in connection with the annual dinner which will take place on Thursday. Lord Strathcona and Mount-Royal, formerly High Commissioner for Canada, and the President, Vice-Presidents and Officers of the College gave a reception. The event of the afternoon was a lecture by Mr. Jonathan Hutchinson on "The Story of Robben Island." Robben Island is a small island situated near Cape Town where lepers are compulsorily sent from South Africa with the idea of preventing the spread of the disease. Mr. Hutchinson, who strenuously advocates that leprosy is not a contagious disease, said that the leper-establishment there is to be regarded as a prison rather than a hospital. Some of the medical officers carried revolvers and, when this fact was commented on at an inquiry, one of them answered that he did not regard the place as a hospital. The plea that these lepers are confined to prevent the spread of the disease is insincere for there are 14 healthy children in the women's wards. When Dr. Impey was taxed with this fact he simply replied that if he separated the children from their mothers he would have so many demons left on his hands. He had also stated that he had never known any official, doctor, policeman, warder, or nurse to acquire leprosy on the island. If, then, leprosy is, as he maintains, a non-contagious disease, it is cruel injustice to keep 550 poor creatures in a state of confinement on a desolate island. Husbands have been torn from wives and mothers from their children in consequence of the erroneous view which prevails on the subject. Mr. Hutchinson pointed out how necessary it is that there should be a well-informed public on this as well as on other subjects, such as vaccination, hydrophobia, etc. Their cooperation is required in order that the full benefits of medical science should be reaped. If leprosy is a contagious disease, why did it totally disappear from the British Islands and from inland Europe? In consequence of the advance of civilization which brought with it improved habits of diet and not from segregation. Even now leprosy in its early stages is a disease difficult of diagnosis; therefore, segregation in the old "leper-houses" must have been very incomplete. Moreover, into these houses patients with other diseases were admitted. In one case a house was half a blind asylum and half a leper-house. Segregation has failed in the Sandwich Islands. Robben Island is a disgrace to the nineteenth century. The one cry of the poor creatures sent there is, "I want to go home!" Of it there might be said "All hope abandon ye who enter here." Many die there of a broken heart. The true cause of leprosy is the eating of uncooked salted fish which probably contained the bacillus. The fact that it is dotted here and there all over South Africa, a few cases occurring here and a few there, show that it is not contagious. No such thing as a violent outbreak has ever been recorded. There are no records of leprosy in South Africa before the Dutch introduced a number of Malay slaves to found a factory for drying fish. Leprosy is prevalent amongst the Hottentots who eat fish, but

does not affect the various Kaffir tribes, Zulus, Bantos and Basutos who do not. Mr. Hutchinson then pointed out the great value to medical science of the Polyclinic. In this institution standing committees have been appointed to investigate leprosy and many other questions, such as tuberculosis, geography of disease, etc. The Polyclinic is not a mere British institution, but exists for the benefit of the whole Empire. Its object is to improve medical knowledge in general.

The antituberculosis movement still proceeds apace. Plans for a sanatorium to be erected at a cost of $50,000 have been submitted to a committee of the Dundee Town Council. The building will be admirably adapted to its uses. The main blocks will have a frontage of 200 feet and will accommodate 18 males and 16 females. Each room for the patients will face south with an oriel window giving access to the terrace and gardens. The corridors will extend from end to end of the building and will be fitted with French windows reaching close to the floor, to admit as much fresh air as possible. At Liverpool a large and influential meeting convened by the Lord Mayor has been held to establish a branch of the National Association for the Prevention of Consumption. Lord Derby presided. The Lord Mayor said that consumption causes 60,000 deaths annually in Great Britain and that a quarter of a million of persons are now suffering from the various forms of tuberculosis. Liverpool loses 2000 persons yearly from consumption, the majority of whom are in the prime of life. The disease has now been shown to be both preventable and curable. Mr. Malcolm Morris, to whom is due the credit of initiating this great movement, said that he never dreamed that this subject would catch on so remarkably with so many classes. The gathering at Marlborough House presided over by the Prince of Wales made the subject fashionable—a very important consideration Mr. Morris said. He had come to Liverpool to preach the doctrine of the open window by day and by night. How many in that room slept last night with their windows open? Is there any fetid air to be compared with the air of the rich consumptive's bedroom twenty years ago? Even at Glasgow 32 per cent. of the consumptives have been cured and 44 per cent. partially cured, while in another place 65 per cent. have been able to return to work.

A case of death from a bee-sting has occurred at Saint Arvans, a village near Chepstow. A young woman, Miss Greenway, accompanied her uncle, Mr. George Greenway, a bee specialist, to the rectory, where she was stung by a bee and died within a few minutes. At the inquest the medical evidence attributed the death to syncope produced by the poison of the bee-sting. It was stated that Miss Greenway had on several previous occasions fainted after being stung by bees. Some time ago, in December, 1898, a case was published in the *Medical Review* of death from a wasp-sting: A strong healthy girl, aged twenty-four years, was stung on the hand by a wasp. A few minutes afterward her face became very red. She complained of numbness all over and of loss of sight. She then fainted. Curiously in this, as in the preceding case, similar symptoms had occurred on a previous occasion when she was stung. Her face turned suddenly pallid and she expired in about twenty-five minutes. These two cases go to show that the very rare fatal results of bee- or wasp-stings are due to idiosyncrasy on the part of the patients.

An action brought by a workman to recover damages from his employers in consequence of lead-poisoning shows the stringent precautions taken by the Government to protect workmen from injury in their occupations. The defendants are large manufacturers of gas-fitting and similar articles in Manchester. The plaintiff worked in a room where fittings were put together and white lead used. After the fittings were put together he had to suck them with his mouth in order to ascertain whether they were air-tight. The proper course would have been to have used a pump, but one was not provided. The atmosphere of the room was vitiated by a lead-burning machine. While working he was taken ill and fainted. He had to give up work and learned from his medical attendant that he was suffering from lead-poisoning. Judgment was given for the plaintiff with £45 damages and costs.

SOCIETY PROCEEDINGS.

AMERICAN MEDICAL ASSOCIATION.

Fifty-first Annual Meeting, Held at Atlantic City, N. J., June 5-8, 1900.

SECTION ON SURGERY.

(Continued from page 939.)

THIRD DAY—JUNE 7TH.

Hernia in Children.—The results of operative treatment in children are better than in adults, said Dr. A. J. Ochsner of Chicago, and if the same indications can be established early operation should be encouraged, otherwise non-operative management, because in the majority of cases it cures absolutely. Statistics show inguinal hernia occurs 300 times to 1 femoral in the child and the London Truss Company make the ratio 10 times greater. All large umbilical and ventral hernias in children are fatal. The chief predisposing causes are the anatomy of the formation and descent of the testes, unduly long mesentery, congenital or acquired by intestinal distention, in 25 per cent. of all cases inherited local and systemic weakness, poor nutrition and general softness and flabbiness of the muscle-tissues. The exciting factors are intra-abdominal pressure due to intestinal disturbance, flatulence, distention, constipation, urinary obstruction in phimosis, and obstinate cough or violent cry-

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ing. Often the mother notices the protrusion and fearing the effects of crying feeds the baby whenever it whimpers, brings on thus indigestion, distention, constipation and, hence, really increases the lesion. Therefore, we find these conditions so often among the ignorant and poor who neglect advice. Many hernias heal before the child's sixth year, when statistics show 1 to exist in 21 patients; from that to the thirteenth year there is still more spontaneously cure, so that the ratio is 1 in 77; of these still more tend to disappear before adult life. Heredity of weaknesses through intermarriage among the Jews counterbalances the advantages of circumcision and accounts for the great frequency of hernia among them. Coley has shown that only 5 per cent. of all adult cases date their history back to infancy and childhood. The great element of the treatment is to keep the sac empty and to remove the cause, especially intestinal disorder, constipation, and phimosis. The spreading of the pelvis in growth tends to make the inguinal canal more and more oblique, to close the internal ring more completely, and to shorten the mesentery by converting some of its redundancy into parietal serosa. If the child be put into a bed with elevated foot, all causes kept corrected and the sac empty, many cases promptly begin their recovery. Others require a truss night and day to flatten and close the canal. The operative cases should be confined solely to (1) patients over 4 years old; (2) reducible recurrent hydrocele; (3) irreducible hernia; (4) incarcerated hernia; (5) strangulated hernia. The technic should stop with the ablation of the sac and closing of the peritoneum and internal ring. Repair of the canal is to endanger the health of the testis by doing too much; therefore, as a rule, the restoration of this part had best be left to Nature in children.

Ventral Hernia.—Dr. M. M. Johnson of Hartford, Conn., reviewed the causes, as follows: Deficient aponeurotic development, imperfect closure of surgical wounds, use of drains, undue damage in long incisions, stitch-abscesses and other wound infection, all healing by granulation, division of motor nerves and atrophy of the muscles supplied, lowered vitality in such systemic disease as tuberculosis, syphilis, and fatty degeneration due to the menopause. Ventral hernia occurs in 10 per cent. of all abdominal sections, whether median or extramedian. His method of treatment is, after separating the aponeuroses as far as possible, to pass silver wire relaxing sutures about one inch apart, as in the old-style "quilt sutures." The layers are then approximated by continuous animal sutures, each by itself, the skin closed and then the wires are tightened. After ten days attenuated wires are removed and the others in five days more. The patients remain in bed three weeks. His results have been good.

Male Inguinal Hernia.—All hernias, not inguinal, holds H. O. Marcy of Boston, are protrusions through relatively large holes and essentially short direct canals, but inguinal hernia has a larger indirect oblique avenue of escape. Opposite the internal ring there is normally no *processus infundibuliformis peritonei,* unless the cord be drawn down. When present this is an anatomical defect and contributes to the formation of a hernia by keeping the internal ring more or less patent. Lack of development is the great cause predisposing to hernia, because in the perfect inguinal canal the pressure from within acts laterally, just as by the oblique course of the ureters into the bladder, injury by back-set of the urine to the kidneys is prevented by the lateral compression upon the ureters by the vesical distention. The inguinal canal and the vesical ureteral implantation are the only two examples of this mechanically advantageous arrangement in man. Given the anatomic defects and any of the usual causes, slowly and gradually the viscus appears beyond the external ring and reaches the scrotal extremity. In operating he considers the following points as necessary for cure: (1) A skin-wound large enough to expose well all the factors and to enable free separation and retraction of the cord. (2) The complete emptying and ablation of the sac. (3) The closure of the proximal end of the neck short and within the general peritoneal cavity. (4) The use of sutures for this step rather than ligature which may engage some aberrant vessel and cause gangrene and death, as proved by an autopsy cited. (5) Careful reconstruction of the inguinal canal with reference to its normal obliquity. (6) The employment of buried continuous animal sutures, one for each of the two layers, avoiding the many knots of interrupted sutures and dangers of buried non-absorbable material. (7) The closure of the wound without drain. (8) The covering of it with an iodoform-collodion seal, and (9) no other dressing. The subcutaneous transplantation of the cord beyond the internal ring he condemns, because it substitutes a short direct hole by incision for the natural long oblique canal. The more complicated procedures of transplanting the pyramidalis and of interweaving the various structures have no advantages over the typical operation. The strong eversion of Poupart's ligament and the suturing of the conjoined tendon to its abdominal and posterior aspects are highly efficient details of the general procedure.

Dr. W. B. De Garmo of New York opened the discussion and said that the greatest single predisposer to hernia is any deviation from the normal anatomy of the tunica vaginalis testis and might at any possible period of life, very early, very late, or in middle life, suddenly manifest itself as such. Dr. Marcy had years ago maintained this action and described it fully. Dr. De Garmo repeated with renewed force his agreement with Dr. Marcy that the Bassini operation, with the details of special care enumerated by him, is the sole means of radical cure. As to children, he said 95 per cent. of all cases are spontaneously cured by the fifth year, and that

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under ordinary conditions this would be the earliest period for operating. Confinement in bed usually works disadvantage to the patient's system and is to be set aside in the presence of a good truss which enables playing and normal life. The greatest point in ventral hernia is to separate and unite the layers, each to each, and to support the repair-work by some type of non-absorbable relaxation sutures, preferably silkworm gut.

One very active cause of hernia, argued Dr. Ferguson of Chicago, had not been mentioned, namely, the absence or deficiency of attachment of the internal oblique to Poupart's ligament. Only the muscle-structures are the active, all the others (peritoneum, fascia, ligaments and aponeuroses) in the anatomy of hernia are really passive elements. In the normal male the internal oblique takes origin from the outer third; in the normal female, from the outer half of Poupart's ligament. The fact gives her a better internal ring and, with the smaller contents of the canal, is the reason why she has fewer inguinal hernias. In 90 per cent. of all inguinal hernias this attachment will be found deficient and in 5 per cent. not to extend down Poupart's ligament at all beyond the anterior superior spine. To his mind, radical operations are of two kinds, (1) those which restore the normal conditions with more or less normal tissues; (2) those which are really plastic with tissues thinned, weakened and damaged by improper truss-pressure.

Dr. Mayo of Rochester, Minn., considers six weeks of bed-treatment highly advantageous for children. To one point of the Bassini operation he always gave attention, namely, the creation of a deep internal lower scar and an outer superficial higher scar. This is done by pulling down the lower aponeurotic flap with Poupart's ligament. To the posterior and abdominal surface of this, the deep structures are carefully secured, giving the deep internal lower line of scar. The aponeurosis is then sutured in the usual way, after the lower flap of it has been replaced, thus giving the superficial external upper scar. This difference in scar levels tends to enhance the operation very much.

Dr. Ochsner said that his bed-treatment works practically better than it would theoretically appear, because it substitutes good diet, healthy surroundings, absence of cause, emptiness of the sac, for the opposite of all, many of which can not be reached so well by truss-wearing and leaving the child at home.

Dr. Marcy went over the anatomy of hernia and proved the need of restoring the obliquity of the canal. He said early operations in children are by no means to be dreaded, but often are better than truss-wearing. Ventral hernia has occurred but once in his last thousand laparotomies of clean type; hence he feels that layer-by-layer suture is of prophylactic importance.

Dr. Johnson said when a hernia occurs through a granulation wound it is impossible to separate the layers, but that relaxation sutures make better the chances of good results.

Drainage of Lung Cavities.—Two cases were cited by Dr. W. L. Mills of Los Angeles, Cal., to show that this procedure may succeed. In rabbits attacks upon the lungs are well borne—so well that he determined to make an attempt to drain lung-abscesses in man. After six years he finally found a patient willing to undergo the hazard. The history had been one of repeated pleurisy, probably tubercular, emaciation and failure. Physical examination showed a left apical cavity, much consolidation, tubercle bacilli and elastic fibers in the sputa. Night-sweats and vomiting and coughing of pus had occurred. Good diet, rest, creosote and healthy surroundings so improved the condition that he refused interference and went home. In a short time he came back in a relapse, very septic, and ready to accept any relief. The inflammation had extended forward, where at the sixth rib, in the anterior axillary line, the abscess appeared about to point. Under ether attack was begun at this point, but no abscess or pleurisy was found. Collapse threatened and a drain-tube was hurriedly inserted. On the ninth day a sudden copious discharge of pus appeared through the tube and more was expectorated. Irrigation with bichloride solution, 1-4000, finally checked this in sixteen months. The patient has gained 75 pounds and is able to do hard manual labor.

The second case had a similar experience, nearly dying on the table, but after a few days evacuated a gangrenous abscess in both directions, bronchi and wound. The progress of his other tubercular processes will finally kill him, although sepsis from the pus has disappeared. Neither was an instance of empyema, because the pleura were normal. The effect of bichloride of mercury in the first man suggests the possible value of it in all tuberculosis. The dry climate of California was no doubt an aid in each of these patients.

Dr. Murphy of Chicago discussed the question of lung-abscess and said those with adhesions can be freely evacuated externally, with the knife better than the cautery. Such as have excited no fixation of the viscus to the parieties may be evacuated externally in two sittings, the first of these concerned with creating the adhesions. A safer method is to plunge a needle into the pleural cavity; allow 120 to 180 c.c. of air to enter by respiratory suction; collapse and compress the lung, rupturing the abscess into the bronchi and so alleviating the septic condition.

Skiagraphic Errors.—Dr. Carl Beck of New York City claims that every surgeon should be aware that lesions can be located and defined only views in several directions. Fractures often fail to appear in one but are always clear in another view. The examination of both the normal and diseased sides is needed to bring out anatomical confirmations and peculiarities, such as the occurrence of the *os intermedium pedis*. The effect of epithelial lines simulating fracture, of the cartilaginous bones of the young carpus simulating absence of development, the appearances of

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new and old fracture lines, etc., all should be matters of common knowledge.

Skiagraphy in Urinary Calculi.—All the known modern methods for diagnosis of calculi, pleaded Dr. C. L. Leonard of Philadelphia, are complementary of each other and combine into a whole mass of evidence, although alone each has its limitations: Urinary analysis of collective and unilateral secretion; centrifuge; segregator; ureteral catheterization; cystoscopy; bacterial examination; determination of the functional activity of each organ; evacuator, radioscopy, etc. The best combination is, with the necessary laboratory examination of specimens, radioscopy, ureteral catheterization and sounding with the wax-covered catheters in Kelly's method, segregation with the Harris apparatus, and study of the pain and other symptoms. The wax-tipped catheter may fail to touch a stone in the renal substance itself, but is of great value when the stone is of fair size and is in the pelvis or course of the ureter. Its greatest sphere is to indicate comparative functional activity of the two organs. With a history of colic the evacuator may demonstrate a calculus in the bladder, but can not show whence it came. In most of these procedures the operation must at once follow the examination. His experience with the skiagraph covers 20 cases, 4 ureteral, 3 multiple, 4 bilateral and the balance single. This method has the following advantages under perfect technic and proper reading of the negatives: (1) Mathematically and mechanically accurate results; (2) absolutely trustworthy negative and positive data alike; (3) detection of all stones of whatever chemical formation and age and number, none left out; (4) examination of the whole tract, kidneys, ureters and bladder; (5) limitation of the nephrotomy to the exact site of each stone; (6) determination in high probability which side should be attacked first in bilateral disease; (7) entire prevention of the sequelæ and complications of unduly free exploration in cases doubtful under the older means of diagnosis; (8) fixed limitation of exploration to the perirenal regions, instead of including the kidney too. Failures are due to some error in handling the apparatus or in reading the negative, except in unduly fatty and very muscular people when it often becomes of questionable value.

Injuries of the Ureter.—This topic of accidents to the ureters during intra-abdominal operations was tersely handled by Dr. B. B. Davis of Omaha, Neb. In his reported case in removing a broad ligament growth the ureter had been divided and a short length of it resected. Its repair was made in about five minutes, as follows: A catgut suture mounted by a straight needle at each end was fixed in the proximal end from within outward, so that the needles emerged at parallel points a quarter of an inch from the division. Through the end of the distal stump, slit down about one centimeter for space and held open with small artery forceps, the needles were again passed from within outward through parallel points, traction on the suture and coaxing invaginated the upper into the lower end. The suture was then tied and a small drain inserted to the point of division. Uneventful recovery followed. He then compared the various methods in use for such accidents: (1) A permanent urinary surface fistula and its drag on the patient and community, by suturing the upper end into the skin and tying off the lower; (2) the cruder, often fatal, way of simple ligation, leaving the patient to die of anuria, first by obstruction, then by reflex action on the opposite side; (3) the sacrifice of the kidney with frequent similar results or death from shock; (4) implantation of the ureter into the rectum, sigmoid, colon or small intestine; (5) into the bladder directly; (6) end-in-end; (7) end-to-end; (8) lateral uretero-ureteral anastomosis. The conclusions were that the anastomoses provide, for the escape of urine through its natural channels, for no loss of function, for the least possible damage to the urinary system. The cicatricial contraction is very slight, and of no practical importance. The operation is readily done. The upper keeps the lower end open in the end-in-end method. If the loss of ureteral substance prevents uretero-ureteral junction, the second choice lies with the implantation into the bladder, and the third into the rectum, sigmoid or colon. In this last procedure ascending infection of the kidney is always to be dreaded.

In the discussion Dr. Kelly of Baltimore said that his wax-coated catheters have limitations. In one case, with diagnosis of left disease, he obtained pus but no scratches; on the right side, which gave no symptoms, he found scratches but no pus. The skiagraph showed stones on each side. The left and then the right were successfully treated. In skilful hands, with careful interpretation of plates taken from several directions he regards the skiagraph as absolutely diagnostic. As to ureteral anastomosis he prefers the end-to-end plan, using therefor his anastomosis guide, similar to a double-end cartridge, which, introduced into the ends, permits ready placing of the sutures which are then carefully tied. The same device is successful in joining the ureter to the bladder. He reported a case in which so much of the ureter had been lost that to avoid tension he shelled the bladder out of its bed, sutured it to the psoas muscle, and then did the anastomosis. The result was admirable.

Dr. Bevan of Chicago reported an X-ray diagnosis of three calculi, two in the pelvis of the kidney and one in its substance. This last would probably have been overlooked had not the radiograph compelled most careful search and indicated its site.

Dr. Bovée, Washington, D. C., enumerated his choice of ureteral operations, in order as follows: (1) End-to-end, transverse or oblique; (2) end-in-end; (3) end-into the side; (4) side-to-side; (5) implantation into the bladder; (6) into the gastro-enteric tract. Of the last there had been

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80 successful cases, without ascending infection. He knew of one case of stenosis following anastomosis and that was due to tuberculosis.

Dr. Goodhue of Dayton, O., praised the radiograph diagnosis and reported an experience antedating its adoption. Pain in one side caused exposure and removal of a slightly-diseased kidney. At the autopsy soon after, the opposite kidney and its pelvis were found packed full of stones and pus. He also mentioned a successful case of end-into-side uretero-ureteral junction.

Dr. Winslow of Baltimore showed that the calices may be very late in joining to form the pelvis, remaining as so many separate tubes. A stone impacted in one would easily escape the wax-coated catheter, but not the X-ray.

Dr. Carl Beck of New York said that the negative radiographic diagnosis is untrustworthy, as many renal-like biliary calculi give no shadow.

Dr. McArthur of Chicago said that in his experiments he had laid uric-acid stones upon the plate and obtained no record, hence he regards the X-ray as open to grave doubt.

Dr. Summers of Nebraska described a case of double ureters he had encountered and emphasized the ready versatility the surgeon must possess.

Dr. Carpenter of San Francisco removed two inches of a ureter accidentally and successfully implanted the stump into the bladder through a long cut. The ureter entered the bladder-wall at the upper limit and emerged into the cavity of the viscus through the lower limit of the wound. Thus, the normally oblique entrance was imitated. He showed a device like the Murphy-button for urethral union and proposed to attach a thread to it to avoid its retention and obstruction. He acknowledged the great danger of phosphatic deposits upon it and thus occlusion of its lumen before the union is perfect.

In summing up Dr. Leonard replied to inquiries for the details of his technic by referring to his paper on this point in *The Annals of Surgery*, February, 1900. He asserted that all concretions *except cholesterin* are positively diagnosticated by the skiagraph. A tube the resistance of which equals a two-inch or three-inch spark through the air is too strong, one of the self-regulating tubes maintaining an even resistance of about a one-and-a-half-inch spark in the air is the proper thing to employ. Of his 20 cases he failed in only one, because his plate did not take in the whole region. The stone was in the top of the kidney and his plate contained only the lower half. The size and position of the plate are also important therefore.

Dr. Davis' final statements were that since ureteral damage usually occurs in long operations, rapidity is the great aim; hence, his preference for end-in-end over the more troublesome end-to-end style. Buttons in the ureter would almost surely clog before union could occur.

Exstrophy of the Bladder.—The features of the treatment of the patient, who was shown by Dr. A. M. Vance of Louisville, Ky., are that two large V-shaped incisions, one in each side with their angle embracing the limits of the exposed bladder, were made. The flaps thus created were boldly loosened and drawn to the median line and secured. In this way the mucous membrane on their deep surfaces turned in to form the anterior bladder-wall. Seven operations extending over nearly three years were required before plastic repair of the complete epispadias and bladder was finished. The patient has a penis which will erect four inches, but must wear a rubber urinal. His mental and physical states are much better. The bladder will hold about four ounces.

Dr. Willard of Philadelphia began the discussion by saying that even repeated operations fail, especially if skin is turned into the bladder, because urinary salts persist in depositing upon the hairs of the skin. He recommends securing a reservoir for the urine with good control in sphincter ani by implanting the ureters into the rectum, or, better, into the sigmoid or colon. If the trigonum be carried into the operation, the natural valves will prevent an ascending infection to a very large degree.

Dr. Kelly of Baltimore has failed to find that a loosening of the sacro-iliac joint affords sufficient relief of tension for perfect result. He thinks that shelling the imperfect bladder out of its bed will give ample freedom for plastic work without tension.

Dr. Hertzel of Chicago stated that in animals direct anastomosis between the bladder and rectum rarely gives cystitis and never infection of the kidneys. The natural valves seemed to afford protection.

Dr. Eastman of Indianapolis once did a left nephro-ureterectomy and sutured the right ureter directly to the urethra with fair results.

Dr. Connell of Chicago said that literature gives two classes of operation for this trouble, palliative without control and radical with control through the sphincter ani. This latter class includes, (1) direct transverse section of the canals and anastomosis into some part of the intestines; (2) direct vesicorectal anastomosis; (3) implantation of the trigonum; (4) oblique implantation into the gut, imitating the oblique entrance of the ureters into the bladder; (5) creation of a permanent artificial anus, with implantation into the rectum converted into a bladder; (6) resection of a portion of the small gut, formation of bladder out of it and implantation.

Dr. Summers of Omaha has seen four cases. In one, a female, he successfully carried the ureters into the vagina while restoring the bladder.

Dr. Vance in closing said the obstacles were sepsis from the urine and infection of the suture lines, erections even in small boys, and the relief of tension.

Urethral Asepsis.—Urinary diluents and disinfectants, stated Dr. F. C. Valentine of New York, are not to be compared in reliability with frequent irrigations in urethritis and cystitis. Piston syringes are often out of order and can not be so well

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regulated as to pressure as the fountain. For the past seven years he has irrigated the urethra before and after any form of instrumentation and has had no cases of urethral fever. The irrigation seems to prevent it. He then showed a device consisting of a collapsible soft rubber reservoir, tube, cut-off, nozzle and shield which may be boiled and is suitable for office and home use. Its advantages are (1) adaptability to prostatic and septic cases; (2) perfect antisepsis and asepsis; (3) greater reliability than internal medication; (4) preference to the piston syringe; (5) avoidance of fever; (6) better asepsis than exists with the hands and instruments; (7) facility for use in the office; (8) in the home or during traveling when the doctor is away; (9) avoidance of danger in the catheters themselves.

Prostatic Hypertrophy.—Dr. Parker Syms of New York carefully described the importance of this disease from the standpoint of its frequency, complications, sequelæ, and pathology in acting as a dam to the urine, causing dribbling, residual urine, vesical dilatation and atony, chronic cystitis, finally, infection of one or both kidneys. Catheter-life is the end of these patients with recurrent subacute cystitis, then chronic, and, last, pyonephritis, unless the obstruction be removed by operation. He prefers prostatectomy to the prostatotomy of Bottini with which he had had little experience. The contraindications for enucleation are disease of the kidneys and arteriosclerosis. If attention be given to these the results would be better. The indications are to operate on generally sound patients as soon as catheter-life is inevitable. Perineal enucleation is the best, combined with a small suprapubic cystotomy, so that the gland can be pressed downward or the same accomplished by suprapubic pressure on the intact thin parieties. Still better is the insertion through the divided deep urethra and bladder, as in Alexander's operation, of a rubber bag devised and exhibited by himself. This should be filled with water and employed as a retractor to draw the gland down. In the presence of cystitis it is well to drain the bladder; in its absence it is better not to enter either the urethra or the bladder.

Opening the discussion, Dr. Thayer of Clifton Springs, N. Y., said that a simple fountain syringe with a shield had all the advantages of the costly Valentine device. Dr. Glenn of Alabama said that in fifteen years' experience he has never irrigated except in purulent urethritis and never has seen fever when clean instruments and sterile unguents are employed. Dr. Young of Baltimore uses the Bottini operation in simple cases. In median lobe hypertrophy he makes two cuts. After introducing the instrument he rotates it to one side, withdraws it until it engages and cuts. Then he repeats it on the opposite side. Suprapubic prostatectomy is also valuable. Dr. Chismore of San Francisco says over-irrigation damages. The prostatic field is well exposed by the dorsal position with the knees strongly flexed on the chest. Dr. Beck of New York not only irrigates the urethra freely, but also injects iodoform and glycerin after instrumentation. Dr. Robbins of Detroit said that urotropin alone is a good urinary antiseptic. Dr. Eastman of Indianapolis said that a piston syringe in the skilled hand is best and fulfils all the requirements of convenience, ready sterilization, and copious irrigation. Dr. Billett of Louisville, Ky., does a suprapubic prostatectomy with drainage by choice.

Dr. Guiteras of New York made the following points: Simple urethral irrigation is always good. Rapidity comes with practice. Never let the patient irrigate himself if he have a stricture or prostatic enlargement. Never let him use any but very bland solutions. A piston syringe may not work well; hence, a fountain is better. Always stop as soon as the patient says the bladder feels full, otherwise strain and hematuria result. Prostatic treatment is still in its infancy, choice lying between catheter-life and enucleation. Never operate if the kidneys and blood-vessels are diseased. Enucleate when the lateral lobes are enlarged. Do the Bottini operation when the middle lobe is moderately enlarged, the suprapubic if it is much increased in volume. Learn the value of rectal touch and instrumental examination of the urethra.

Dr. Valentine closed the discussion by saying that he had combined the cystoscope and Bottini incisor to avoid some of the objections the operation had of being done in the dark. He had no instrument to show.

FOURTH DAY—JUNE 8TH.

Tubercular Knee-Joint.—Dr. Wisner R. Townsend of New York emphasized the importance of both constitutional and local treatment. There is no specific for tuberculosis, but good diet, tonics, creosote, guaiacol, change of climate, and out-of-door life, will do much to aid the system in combating the disease. Locally rest, protection, correction of deformity, removal of the tuberculous foci and prevention and cure of complications are the indications. Protection and rest are usually obtained by some form of splint, preferably one like the Thomas used much at the Hospital for Ruptured and Crippled in New York City. With it observation of the progress of cure can be made. It is lighter than plaster of Paris and gives less irritation to the skin. The shoe of the sound side is built up so that in walking, which must be with crutches, no jar or function is allowed on the diseased joint. Any weight on that side is received entirely on the pelvis through the perineal ring so that the knee is not disturbed. The extension possible with such a mechanical splint tends to correct or even prevent the deformity. For the fuller realization of this point we have the plaster or other self-hardening bandage best applied from just above the ankle to well above the pelvis as a spica; many means of extension; osteoclasis; osteotomy; forcible reduction, and *brissement forcé*. If operation be necessary the last two methods are the least de-

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sirable. The aim is to avoid deformity by making early diagnosis and traction from the beginning of treatment. The removal of the focus may be done by injections; arthrotomy with curetting the disease away; excision, not advisable in children because the epiphysis is almost certainly damaged; amputation when the disease is very advanced and deformity hopeless. The ordinary complications are abscess, sepsis, and sinus. The abscess should be excised when possible, otherwise widely opened, scraped and drained; if in the bone-substance, wide gouging must be done. The sepsis of joint-disease requires free opening and drainage, ofttimes amputation. Sinuses sometimes yield to drainage, asepsis and stimulation, but often require wide excision. The non-operative treatment usually requires two years in simple and three years in complicated cases.

Dr. Barton of Philadelphia began the discussion by saying that an attempt to excise a cold abscess should always be made. Dr. Dawbarn of New York pointed out that shortening is always greater after injury to the lower than to the upper end of the femur. Dr. Ochsner of Chicago regards the systemic more important than the operative treatment in the early cases. Most of his patients come from a damp, overcrowded lake-front part of Chicago, filled with tuberculosis. If he can get the family into a part of the city with dry soil, and no cellars and comparatively healthful surroundings, improvement at once begins. Dr. Sullivan of Chicago pleaded for the earliest possible diagnosis in order to avoid deformity, sepsis and amputation. Dr. Bullitt of Louisville, Ky., referred to the statistics Dr. Gibney reviewed before the International Congress in Berlin, when, under mere bandages, fair protection and good hygiene in the early days, good results were accomplished. In these later years of improved appliances still more is done.

Fractures of the Patella.—The failure of the bony union, said Dr. Barton of Philadelphia, so often resulting in non-operative treatment, leads to fracture on the opposite side, and has a medico-legal significance. Operative treatment under care has none of these objections; it has a low mortality now and has always been his choice, after waiting a few days for reaction to occur. The advantages and disadvantages of the two methods should always be explained to the patient and the responsibility of the choice left with him. No suture of the peripatellar soft tissues can be trusted. Hence, wiring the fragments with one or more pieces of silver wire is the best. The suture must not lie upon the cartilaginous surface, but simply penetrate the bone. The twisted end may be laid into a slit in the tendon. His choice as to patient is only those in good health with high resistance powers and commonly with fracture by muscular action. Prompt operation gets ahead of the organization of blood-clot and is better for the patient. If there is much damage to the soft parts small drains from the lacerated parts for a day is sufficient. Passive motion should be begun after three weeks.

Unreduced and Irreducible Dislocations.—Dr. A. D. Bevan of Chicago said that experience with old joint-injuries, with the pathological conditions found in open operations of very frequently displaced small fragments of bone intercepting the replacement of the joint has led him to try prompt invasion of the joint when all proper manipulations have failed to reduce and when the X-ray showed splintering of one or more of the bones. His data are drawn from three cases of elbow-, one of hip-, one of astragalus-dislocation, unreduced and not reducible. In pre-antiseptic days joints were left alone as a fixed rule with rare exceptions, but in these antiseptic and aseptic times old cases are infrequently opened and good results follow. In literature, however, there are few cases in which immediate exploration has been done. All his cases healed primarily, with perfect or good partial function and his conviction is that the method is surgically sound. His conclusions are: (1) Highest standard of asepsis and antisepsis; (2) free opening of the joint (of the elbow best by two lateral incisions over the condyles rather than a long posterior one with damage to the triceps tendon; of the hip best in front with separation but as little division of muscle as possible; (3) careful exploration for bone-fragments with entire removal; (4) full division of adhesions or bands, if these exist; (5) emptying the joint of clots; (6) closure without drain; (7) after-treatment in splints the same as under ordinary surgical conditions for each joint, namely, at the elbow semi-flexion and pronation; (8) responsibility of choice to be the patient's after full explanation of the dangers and possible benefits; (9) failures to reduce to be at once followed at the same sitting by excision of the joint to restore it; (10) operation when usual means have failed and before callus is cast about the offending fragments, bands and adhesions occur or clot organizes; (11) careful skiagraphic study in each case before proceeding; (12) only the old cases should be drained; (13) sterile salt solution is the only proper irrigation.

The discussion was opened by Dr. McLane of Detroit, who called attention to the entire practicability of this method on the ground of modern primary open method in all surgery, illustrated in compound fractures and tenotomy.

Dr. Blake of Chicago said that the finger must not touch any part of the joint in fractures of the patella, but instruments alone. The patella heals as do other bones; therefore, apposition by removing soft parts between the fragments and suturing the peripatellar soft parts with chromated gut and securing a fitting splint-support merely are necessary. Sterile water should be the sole irrigation. Operations should be done at once or before the clots cause adhesions. Recent clots and fresh blood can be absolutely washed from the joint. Dr. Tinker of Philadelphia said that aluminum-bronze wire is used by the Germans because it is slowly absorbed.

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Dr. Ochsner of Chicago pointed out the frequency with which the patellar fragments roll outward and have clot between. The transverse incision in his hands is better by giving free access to the expansions of the quadriceps tendon which so often embraces the bone at the sides and should always be sutured. Chromated catgut is absorbed and is far preferable to wire. A rubber bandage over the thigh during the operation and until the patient is in bed prevents spasm of the muscle and damage to the sutures. Three weeks after operation he has his patients walk with aid. His operations have varied from one day to one year after the injury. The former is his choice.

Dr. Means of Columbus, Ohio, reported 9 successful cases of patellar suture. He never allows his hands to touch the tissues, and never uses wire. The incision is always adapted to the case, hence it varies. He also outlined a satisfactory early operative invasion of the shoulder for unreduced and irreducible dislocation. Dr. Barton said his fingers touch only the fracture surfaces. Sepsis in his observation always begins in the skin. An absorbable suture would probably be preferable to wire, but choice lies always in suturing the bone itself, not the tissues about it alone. The retention of the fragments free of interposed soft tissue in good contact, judicious selection of resistant, healthy cases, and rigid antisepsis are the needs.

Dr. Bevan of Chicago closed by asserting that the non-operative management is often absolutely satisfactory. In his hands a prize-fighter with each patella fractured had been cured and enabled to resume his vocation. The doctrine that all men under all circumstances should open the knee-joint is dangerous in the extreme. In skilled hands, with all possible facilities and precautions, no doubt the suture is a good procedure.

Serumtherapy in Tetanus.—Dr. J. D. Blake of Baltimore brought out the necessity of early and liberal use of the antitoxin serum in reporting five cases. The first, a carpenter, acquired the disease by a crush of the fingers, and was cured by 50 cu. c.m. The second was a lad who ran a fence sliver deeply into his thigh, and was saved by 60 cu. c.m. The next was a machinist injured by a nail and recovering after 60 cu. c.m. The fourth, a bather, forced a bit of rotten stump into his foot, part of it remaining in for a few days. He died after 40 cu. c.m. had been given, having come late under observation. A carpenter was the fifth patient, infected by nail and saved by 70 cu. c.m. The injections were subcutaneous. The organisms were identified in the blood of only two.

In the discussion Dr. Whetmore of New York City directed attention to the report in *The Annals of Surgery* of 9 cases treated at Roosevelt Hospital, all infected from toy pistols; 7 were trephined and the serum injected into the lateral ventricle, and two received subcutaneous treatment. All were "star" cases.

Frontal Sinus Tumors.—Dr. Hamilton of Columbus, Ohio, reviewed two cases of frontal sinus growth and enforced the need of early recognition and prompt operation. Commonly the neoplasms are osteomata or malignant invasions, with any possible local result, bone absorption, chronic or subacute meningitis, abscess of the brain, etc. The second case had a three-year history, no tuberculosis and no syphilis inherited or acquired, marked exophthalmos, optic neuritis, retinitis, choroiditis, amaurosis on each, especially the left, side. Upon exposure both posterior walls of the sinuses were found to be eroded; local thickening of the meninges; both orbital plates absorbed; pus in the left orbital cavity, causing the more marked signs in that eye. The finger could palpate the left petrous bone. After thorough removal most of the eye symptoms disappeared and the patient's mental and moral state cleared up wonderfully.

Dr. Dawbarn of New York stated his experience with an obscure growth in the antrum of Highmore. A tooth had been removed by a dentist for persistent pain and had a soft growth attached to its fang. No importance was attached to this. But the pain was not relieved and upon light examination a growth was appreciated. Dr. Dawbarn took a straight cambric needle in a needle holder and by forcing it through the cheek finally ascertained where the bone had been absorbed. He found the consistency here about the same as that of cartilage. The simple plan of palpating bone beneath soft parts he considers of value.

Injuries to the Head.—Dr. W. H. Earles of Milwaukee, Wis., said no accident to the head is too trivial not to need treatment, and none is too severe to be hopeless. The anatomical position of the head and the erect posture of man make the head very exposed. Simple scalp-wounds may be fatal through infection and complication. The outer and inner tables may be broken independently and often the inner with depression and meningeal or brain lesion. Frequently, there is not even a scalp-wound, yet cerebral laceration, contusion or hemorrhage may be marked. The important things to ascertain are the condition of the substance, membranes and vessels of the brain. Simple scars of lacerations may lead to chronic meningitis, headache, epilepsy, or insanity. The procedure should, therefore, be free exposure, minute investigation of bone-membranes and brain, with careful repair of damage, especially the removal of pressure by bone fragments, etc.

Laminectomy.—In spinal disease, said Dr. Samuel A. Lloyd of New York, the mechanical treatment is often too tedious, does not arrest the process and, hence, often makes operative interference necessary. In cases of tubercular spondylitis the following broad principles are applicable: Laminectomy with exposure of the disease-area should be thoroughly done (1) when the case is evidently advancing, is complicated by abscess-formation or by myelitis of any type; (2)

when the disease is posterior and paraplegia is being established. Tubercular deposits elsewhere in the body usually contraindicate operation. The cervical region is least, the dorsal and lumbar vertebra and the sacrum are next in order of advantage as fields. As a rule, the pressure will be found due to granulations, tubercular detritus, abscess, rarely to bone itself. Tumors from this point of view may be of the cord itself, its membranes or its bony canal and, hence, embrace almost any possible variety, malignant, benign or inflammatory. In general the surgeon's guides in these are the same as in fractures. Statistics give 8 per cent. deaths directly attributable to the operation. Cervical fractures have few recoveries; elsewhere the prognosis is better. If the cord is evidently crushed or cut across, as may be estimated by the sum total of the symptoms, then operation is useless, but, with the slightest outlook for benefiting the patient, it is always wise to try. Late symptoms may be due to slow inflammation, or, as in the fractures of the arches and spines, to exuberant cells. Lesions of the cord itself are necessarily complete and absolute or partial with final suspension of the function of the injured part of the cord or with renewal of the same after a variable interval. Hence, are deduced the following laws for operation: (1) If destruction is complete, no operation; (2) if partial and the patient's condition is stationary, neither improving nor retrograding, operate in the hope of some benefit; (3) if partial and rapidly extruding, operate because hemorrhage, effusion or operation may be the cause; (4) if partial, with improvement at first then stationary, operate; (5) if recovery is practically complete and late signs supervene, operate to remove the callus or other source of pressure. The damages are shock and hemorrhage. The latter is usually controlled easily. The former may be well combated in any of the modern ways and largely avoided by waiting for the signs of the original shock and concussion to pass off. In general, we should be guided not by local deformity and displacement, but by signs of cord damage inherent in sensory, motor and reflex functions. Since the true source of pressure may be extra-, or intradural fluid, rarely than bone, the contents of the canal must be exposed and inspected beyond the site of essential bone damage. Again, the membranes often require incision to evacuate foreign contents. In general, as in the cranial cavity, all sources of pressure must absolutely be removed.

Dr. Dawbarn of New York in the discussion added that he had treated one patient a year and another two hours after injury with good results. But in general immediate operation, as in skull injury, directly after the initial shock, is the best method. Dr. Hough of New Bedford, Mass., said he had cured a case presenting first paralysis of both legs, then of the right and later of the left arm. He removed the sixth and seventh cranial laminæ. The patient now has paresis of the right arm only.

Surgery in the Aged.—Dr. J. P. Tuttle of New York reviewed his experience with 163 patients aged over fifty years and 133 over sixty. The second group averaged about sixty-nine years. Two deaths had occurred from pneumonia and one from a confusion of urine specimens which led to operation on a man with advanced renal disease. The operations were many of them major, representing hemorrhoids, hernia, varicocele, resection of the intestine, fistulæ-in-ano, prolapse of the rectum, hysterectomy, etc. The anesthetic employed was ether 183 times, cocaine 30, chloroform 13. In the rest of the cases no minute of the anesthetic was made. There were no deaths from anesthesia. None of the patients was robust. None was selected for the paper. Almost all had moderate albuminuria. Fatty and epithelial casts always excluded, but only very many hyaline casts prevented operation. Celerity and rigid asepsis were always followed. Shock was often absent. Primary union was the rule. In the aged we assume either no vicious habits and good care or originally fine constitution or both. Hence, operations should be well borne.

Dr. Dawbarn of New York said first and second childhood are alike in that sepsis is extremely fatal. Constitutions made poor by alcoholism also bear infection badly.

Intestinal Sarcoma.—Quoting from statistics, Dr. C. Van Zwalenberg of Riverside, Cal., said that in 14,000 cases seen during fifteen years primary sarcoma had occurred 13 times, of the ileum 7, jejunum 3, cecum 2, ileocecal valve 1. Dr. Weir reported 2 instances in 35 resections of the intestine. His conclusions are that it occurs 1 in 1000 cases, invades the small gut usually, causes dilatation rather than stenosis, follows few of the features of carcinoma, behaves usually as a kind of infection and is difficult of early diagnosis. Wide resection of the gut and extirpation of evident secondary deposits as early as possible are the indications.

Nerve Injury.—Dr. B. B. Eads of Chicago stated the histories of several instructive cases of successful primary suture of the median and ulnar nerves. Statistically, he collected 294 cases of nerve-repair in addition to his own, distributed thus: Immediate or primary operations, 62 successes, 62 improvements, 49 failures; secondary or late operations, 61 successes, 61 improvements, 19 failures. His conclusions are that as a rule a primary suture is the better, consistent asepsis and antisepsis, no drain-tubes, no chemical antiseptics, catgut transfixion and fine silk sutures in the sheath, no tension, careful approximation, relaxation by position, removal of the restored nerve as far from the probable site of scar tissue or possible.

Retained Catheters.—In external urethrotomy, Dr. J. R. Eastman of Indianapolis, Ind., said, most surgeons retain catheter drainage from twenty-four to forty-eight hours; a few three to six days. In his own cases he had kept them *in situ* as long as twenty days in hematuria, decreasing the tension, increasing the urethral caliber

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and stopping the bleeding by rest. Before the days of clean surgery, continuous drainage by the retained catheter was abandoned, because cystitis and other infections so often occurred. But since that time gradual return to it was being made. Cystitis may be caused by direct traumatic contact or by decomposition. If the instrument be inserted just the right distance and changed at intervals and irrigation of the bladder and urethra done regularly, then it can usually be prevented. Sometimes in urethrotomy the canal is too tortuous and tender to permit anything but retention. A large catheter properly managed, permits little movement within the urethra, hence, little irritation, gives little leakage, is well borne, prevents spasm, secures dilatation and usually avoids long after-treatment by keeping urine out of the perineal cut. The dilatation seems to be such that often, while a No. 26 Fr. catheter was passed, a No. 32 sound will go in easily.

Dr. Lord of Nebraska said the only contraindication is a truly septic urethra.

Dr. Guiteras of New York said that retained large catheters straighten tortuous urethras, overcome spasmodic stricture, alleviate follicular prostatitis, often aid the better healing of traumatic stricture, provide continuous drainage in fracture of the pelvis early and late when fibrous tissue may invade the perineum, soothe spasm in seminal vasculitis, introduce the patient to catheter-life very gracefully by straightening the canal, overcoming spasm and habituating the mucosa to the instrument. Cleanliness and irrigation avoid the urethritis of retention. Deposits upon the catheter should be washed off and the instrument changed. In typhoid and other severe fever to obviate frequent catheterism the retained instrument can well be used.

Dr. McLelland of Ohio rehearsed a case of prostatic spasm with retention. Suprapubic puncture with a trochar and cannula was done and a catheter passed through the cannula and left in. The drainage relieved the congestion and spasm so that large sounds could be passed. Dr. Holmes of Philadelphia mentioned a case of cystitis, sinus and vesical calculus, for which he had used a retained catheter with advantage.

Dr. Kelly of Baltimore reported a case of tubercular nephro-uretero-cystitis of the left side. The patient had suffered most from the bladder lesion. Hence, he decided to explore that first. This operation was so well borne that he determined at once to do the radical steps. Through his usual loin incision, somewhat shortened, he freed the kidney and the ureter and passed them down to the pelvic brim behind the peritoneum, through his median exploratory wound he shelled out the bladder, excised its diseased zone and after freeing the balance of the ureter removed the bladder segment, ureter and kidney together out of the median incision. The bladder was sewn up with catgut and fine silk down to the mucosa in two rows. Recovery was well under way when by accident the bladder became distended, burst and death by peritonitis resulted. The anesthetic was chloroform, but gas and ether and gas and oxygen were both being tried by him. The specimen from this case was exhibited. He also desired to say that he had never seen a case of primary vesical carcinoma. A nodule once found in the bladder proved to come from one in the uterus previously unknown which worked its way by contiguity into the viscus.

Anatomy of Hanging.—Dr. E. W. Holmes of Philadelphia said in his investigations he concluded that death is due to one or more of the following causes: Apnea, asphyxia, hyperemia or anemia of the brain, shock, cerebral concussion, neuroparalysis and, perhaps, least frequently, broken neck. It is probably painless. Electrocution appears to be fatal through universal muscular tetany—especially of the heart.

SECTION ON OBSTETRICS AND DISEASES OF WOMEN.

SECOND DAY—JUNE 6TH.

(Continued from page 943.)

Dr. G. C. Carpenter of Columbus, Ohio, Superintendent of the State Hospital for the Insane, read a paper on "Pelvic Disease as a Factor of Cause in Insanity of the Female, and Surgery as a Factor of Cure." He said it was early observed that pelvic disease is associated with mental changes at puberty, the menopause, and in the post-climacteric period. A close anatomic connection and intimate physiologic relationship would thus seem to be indicated. He traced the embryology of the generative and nervous systems in man and other animals, and proved that comparative embryologic development of the nervous system and generative organs show a precedence of nervous functions. The sex is not distinguishable up to the third month, while long before this time the brain, cord, and nerves have been formed and are functionating. The entire nervous system also develops from the epiblast, while the genito-urinary organs develop from the mesoblast. He showed that the older ideas as regards the cause of many forms of insanity in females are exploded in many instances. It would appear that pelvic disease is a factor in the cause of these mental changes, and that surgery is a factor in the cure of the condition. The pelvic condition should be ascertained in every case and if any disease is found an operation should be urged. This method will give to the insane woman the same advantages enjoyed by the sane.

Dr. C. H. Hughes of St. Louis, Mo., presented a paper entitled "The Interrelation of Gynecology and Neurology in Practice." He said that the advances made in bioneurologic discovery give just warrant for the statement that, with a proper understanding of this subject, there ought to be one opinion respecting the interrelation of neurology and gynecology in practice, and but one method of therapeutic procedure among both gynecologists and neurologists; that is, to treat the whole organism and every damaged part for

the best results. The omnipresence of the nervous system throughout the organism, with its afferent and efferent communications, is noted, as may be witnessed, for instance, in the interrelation of the vagus nerve and brain and the abdominal and thoracic viscera; the relation of hysteria and of a cortex lesion to its varying subcortical and peripheral abnormalities of function; the proven interrelation of pelvic and cerebral states as shown in the various phases of erotic life and evolution; and in the neurophysiologic and neuropathologic changes, both central and peripheral, of the catamenial stages and the menopause in women. Their alteration, beginning in the governing nervous system and effecting active and reactive influences revealed in a clinical symtomatology largely nervous, but also in grave pathologic changes of uterine stricture, indicate that the patient must be treated in whole, as well as in part; that there is a general as well as a special clinic on hand, a case in which the knowledge of more than one specialist is often demanded in treatment. Mere local manipulation and remedy are not all that is demanded. Woman has both a gynecic and a neurocerebral function and sphere of physiologic and pathologic influence and often deserves, when ill with local manifestation of disease, both neurologic and gynecologic treatment at the same time. The gynecologist, if he treats her all over as she deserves, should be much of a neurologist and the neurologist *vice versa*. Too many gynecologists see their patients only through a speculum and many neurologists see them only through the nervous system. Both of these classes are narrow.

Dr. A. L. Beahan of Canandaigua, N. Y., read a paper on "Tubo-ovarian Adhesions; Their Reflexes," in which he stated that there were two classes of pelvic adhesions, the massive, heavy form due to active inflammatory changes, and a milder form in which the inflammatory action is not so marked. The first form is ordinarily gonorrheal in origin. The development of these tubo-ovarian adhesions is never ushered in by severe symptoms. The first indication of the disease will be in the remote effects acting through the sympathetic nerves on distant organs. In these women a careful examination under an anesthetic is indicated, and if pelvic trouble be found a radical operation should be performed. Continued trouble here will ultimately disturb the nervous system and hysterical symptoms will sooner or later appear. The differential diagnosis of this border-line disease is paralleled by insanity caused by structural changes in the appendages. The former consigns the patient to chronic invalidism, misnamed neurasthenia or hysteria; the latter excludes her from society or even ostracizes her from home.

Dr. Edwin Ricketts of Cincinnati, Ohio, read a paper entitled "Gall-Stones and Diseases of the Gall-Bladder and Nervous Symptoms Resulting Therefrom." He said the peculiar nervous symptoms, at times indescribable, accompany the presence of gall-stones. These stones are usually found in the excretory apparatus of the liver, the bile-ducts, liver-cells, adventitious cysts, or in the intestinal tract. The contents of the gall-bladder, with or without gall-stones, may become infected by the bacterium coli communis or by a pyogenic streptococcus which gains entrance from the duodenum or through the blood of the portal vein. The prevalence of gall-stones in insane subjects is a recognized fact. Gall-stones should be removed as soon as diagnosed. Distended gall-bladders that fail to be emptied as the result of internal medication alone, as by the use of calomel, or in combination with massage through the abdominal walls, should be drained by means of a cholecystotomy.

In the discussion Dr. Porter of Indianapolis said that in this class of nervous patients the gynecologist should call in the neurologist and the two work together. He called attention to the nervous symptoms induced by the menopause artificially produced, which at times even amount to a true hystero-epilepsy. Before proceeding to operation in nervous cases a consultant on nervous affections should be called in, and every insane hospital should have a visiting gynecologist.

Dr. Shoemaker of Philadelphia remarked that pelvic disease, or pus-tubes, fibroids, and the like, induce anemia and deterioration of blood, and for this reason if for no other operation would be indicated to relieve the local and general condition, if not the nervous symptoms.

Dr. Eastman regards insanity and cancer as the two most important questions of the day in gynecology.

Dr. Benjamin of New Jersey stated that many ovaries are being removed for the relief of pain. He does not believe in the removal of organs in order to cure pain. Operations are not done for neuralgia over the eyes or in the chest. In these pelvic cases he gives the remedies used for neuralgia elsewhere and has excellent results.

Dr. Zincke of Cincinnati would remove all disease before the patient is admitted to the asylum. He would not operate on every case of gall-stones that was diagnosed.

Dr. Carstens of Detroit said that if the case was diagnosed early and the cause removed early, the symptoms would not develop. It is not the gynecologist, but the general surgeon who removes the ovaries to cure insanity. The gynecologist has learned his lesson too well to do this.

Dr. Baldy of Philadelphia said the whole matter could be included in two questions: Do gynecologic troubles cause insanity? If so, will operation cure it? He is convinced that gynecologic troubles do not cause insanity. He thinks it is unnecessary to examine every patient who enters an insane hospital. There is probably a greater proportion of women in health with pelvic lesions than in the insane asylums. The only justification for operation is when the lesion is giving symptoms. Insane cases following parturient and puerperal lesions will recover. This is not true of cases of other origin and I desire to protest against the effect of operative procedure.

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THIRD DAY—JUNE 7TH.

Dr. A. H. Goelet of New York read a paper on "Aseptic Minor Gynecology with Demonstrations." He stated that it is easy enough to be clean in gynecologic work. Patients are easily infected by carelessness in this respect. Cleanliness in every-day gynecology is absolutely essential in office-work and in every gynecologic examination, not only for the protection of the patient, but for the physician also. Cleanliness in every detail always reverts to the benefit of the physician, because it is pleasing to the patient and inspires confidence. The examining-chair or operating-table should be arranged and kept ready for use. The instruments are to be selected for use and placed in a shallow dish half-filled with an antiseptic solution. All articles likely to be needed for the examination, such as sterilized cotton swabs for sponging, gauze prepared for tampons, prepared cotton-wool tampons with strings attached, should always be placed conveniently before beginning the examination. Such remedies as may be needed for application are to be in readiness. A reservoir containing an irrigating solution must be filled and placed in position so as to be convenient. He has devised a special form of air-cushion for operative and office-work. This is to be covered with a clean cloth for each patient, and obviates wetting the patient's clothing. The hands must be thoroughly clean in order to avert danger, the staphylococcus is always present and often the streptococcus. Ordinary soap and washing will not cleanse the hands. The author employs a liquid soap with the brush. For douching he uses an ordinary percolator with a rubber tube attached. The character and significance of every leucorrheal discharge should be investigated and understood and an antiseptic irrigation of the vulva and vagina should precede every digital examination. Asepsis in the examination at the patient's house is just as important as at the office, and for this purpose he has devised a special aseptic case.

The Nominating Committee reported the following names: For chairman of the Section, Dr. H. B. Newman of Chicago; for Secretary, Dr. C. S. Bonnifield of Cincinnati.

"The Symposium on Cancer of the Female Generative Organs" was opened by a paper read by Dr. L. S. McMurtry of Louisville, Ky., entitled "The Prophylaxis and Diagnosis of Cancer of the Uterus." He stated that there are two varieties of cancer of the uterus pathologically, namely, epithelioma and carcinoma. The epithelioma shows squamous cells and infiltrates the deeper tissues; the carcinoma involves the structure of the uterus and invades the glandular substance. Erosions of old cervical lacerations are often the starting-point of carcinoma. The disease begins near the external orifice and infiltrates the tissues. The surface is at first smooth or nodular. Ulceration usually occurs early in the course of the disease. The cauliflower growth bleeds freely and advances rapidly. The process of invasion is usually by continuity of tissue. Adenocarcinoma of the uterine body is localized in the early stage in the mucous membrane. Later the uterus increases in size, the entire cavity is filled, and the muscularis is invaded. The diagnosis must be made from the subjective symptoms, examination by touch and sight, and the microscope. In the initial stage of uterine cancer there are no symptoms. As the disease advances the three classical symptoms, hemorrhage, discharge and pain appear. The hemorrhage is a result of ulceration and is usually the first symptom to appear. Slight at first, it is later profuse and alarming. The discharge is at first thin and watery; later it is turbid, bloody, and fetid. Pain is by no means constant and may be absent altogether if the disease is limited to the cervix. Pronounced pain, as a rule occurs in the advanced stages of the disease. Irritable bladder, cystitis, and alternating diarrhea and constipation are late symptoms of the disease. The cancerous cachexia is now present. In the early stage of the disease the diagnosis is difficult at times. The senses of touch and sight must be employed. Cancer is preeminently a disease of the child-bearing woman. Microscopic examination is invaluable and must be employed in every obscure case. The cervix is the usual site of invasion. Primary cancer of the corpus uteri is comparatively rare. Bacteriologic examination has added but little to our knowledge of this disease. Recurrence is apt to follow late operation. The patients often come too late for success. As a prophylactic measure, ulcerations, erosions, and lacerations of the cervix should all be repaired and the parts kept perfectly clean.

Dr. R. B. Hall of Cincinnati, Ohio, read a paper on "The Technic of Vaginal Extirpation for Cancer of the Uterus." He urged the necessity of careful preparation of the patient to be subjected to vaginal hysterectomy. The function of the kidneys should be carefully noted and the patient should be kept under care for a few days before operation. The extreme lithotomy position should be used, and the anesthetic should be chloroform unless the drug is contraindicated. If the case is one far advanced, with great sloughing, or one of epithelioma with a large mass of cancerous tissue, the operation may be done in two stages. The perineum is retracted by a short, broad speculum, and the vagina thoroughly scrubbed and carefully sterilized. A short curette cuts away the soft tissue and the thermocautery is applied. Ten days later the final operation may be performed, and the superficial tissue will be found comparatively healthy. Thorough curetting and the subsequent cauterization adds materially to the safety of the patient. The cervix is fixed with a strong volsellum, and the mucous membrane divided around the cervix one-half inch or more from the diseased tissue. The mucous membrane is then dissected back and the bladder freed. The wound is widely separated by the fingers introduced and separated; this displaces the ureters outward. A gauze pad is then

passed into the cavity and rests upon the uterus. The posterior vault is opened and gauze introduced behind the uterus. The first ligature of heavy silk twist is introduced by means of the Cleveland ligature carrier. If the disease is more marked on one side than on the other, the healthy side is first tied. A good button of tissue is left and one end of the ligature is cut short. This can be repeated on the other side alternately until, finally, a ligature passes over the top of the broad ligament. It is important not to include too much tissue in any one bite. The tubes and ovaries should always be removed. The operation is almost a bloodless one. An ounce or two of blood is all that is lost. The gauze prevents prolapse of the omentum and intestine. The bunch of ligatures is then tied together and the peritoneum closed above the ligatures by a suture running to the middle line and drawn taut. A corresponding suture on the other side completes the closure. The dressing of gauze which is now introduced is not removed until the fourth day. It is then not replaced, but a douche is given every three or four hours after micturition. He does not believe in the necessity of always catheterizing the ureters.

Dr. J. B. Deaver of Philadelphia read a paper on "Combined Abdominal *versus* Vaginal Hysterectomy for Carcinoma." He stated that the choice of route must be decided in every case. The glands should be extirpated as well as the diseased tissue, hence the abdominal route is to be preferred. The vaginal method will answer in some cases. The incision must be a long one and the field freely exposed. Abdominal hysterectomy offers the following advantages: It affords the only opportunity for removal of the pelvic glands. The author here gave a brief review of the anatomy of those glands. There are two chains of lymphatics to be considered, an upper and a lower one. It also affords a better area for complete extirpation of the carcinomatous tissue. There is lessened danger of injury to the ureters. Catheterization of the ureters is unnecessary and therefore an uncertain and frequently impossible step in the operation is avoided; further, the danger of kidney infection is avoided. There is lessened danger of hemorrhage on account of a better command of the field of operation. Consecutive hemorrhage is less liable to occur. The danger of infecting the peritoneum is lessened. The author has serious doubts as to the possibility of sterilizing any vagina. Most cases of abdominal hysterectomy need no drainage, but, if this be required, it is always best to make it suprapubic. In total extirpation the peritoneum can best be closed from above. There is no danger of prolapsing bowel. Vaginal hysterectomy is only applicable (1) in early carcinoma confined to the cervical or uterine canal; (2) when the uterus is small and easily movable. It is contraindicated when the cervical or uterine canal is affected and there is disease of the uterine appendages, as adhesions, pyosalpinx, ovarian cyst, or fibroid tumor.

Dr. W. H. Humiston of Cleveland, Ohio, read a paper entitled "Cancer of the Uterus." He urged the great importance of the general practitioner recognizing early malignant disease of the uterus. Immediate and complete operation should be insisted upon. Adenocarcinoma is the only form that involves the body of the uterus and it is the most common cause of metastasis. The epitheliomatous variety is comparatively slow to give rise to metastasis, and offers the best chances against recurrence after operation. If the operator waits for the classical two symptoms it will be too late to cure the patient. Adenocarcinoma of the cervix is the form of cancer most to be dreaded. There are three modes of recurrence: (1) By metastasis; (2) by incomplete removal of the infected areas; (3) by infection or direct implantation of malignant cells in previously healthy tissue at the time of operation. The practical import of this paper can be summarized thus: The importance of early differentiation of maligant growths of the cervix. Careful consideration of the importance of the lymphatic vessels and glands in their capacity as drains of different portions of the uterus. There are two distinct groups of lymphatics to be looked for. When the disease has passed beyond either group all chance of complete recovery is gone. Abdominal section with complete removal of the special groups of lymphatics alone offers a chance of recovery.

Dr. W. R. Pryor of New York spoke on "The Treatment of Cancer of the Uterus." He stated that in America cancer destroys 30,000 women annually. He believes the disease is due to a parasite, although this is not proved. Vaginal hysterectomy is firmly established in the opinion of surgeons, and yet it gives a mortality of 10 per cent. in the hands of the best operators, and recurrence is frequent. Hence, this operation cannot be endorsed. Amputation of the cervix also gives unfavorable results, although better than vaginal hysterectomy. It must also be prohibited. The operation is performed mainly to prevent recurrence and not so much for the disease itself. If the diagnosis is plain the case is a late case; if the diagnosis is obscure the case is an early one. Only in an early case is vaginal hysterectomy serviceable and even here its utility is doubtful. Byrne's method of electrocautery is valuable in certain cases. Other methods of treatment are to be condemned. Vaginal hysterectomy for carcinoma of the fundus gives a considerable degree of immunity. The vaginal operation, to be successful, must remove the uterus, appendages, glands, and upper third of the vagina.

Dr. Boldt of New York, in the discussion, said that cancer of the supravaginal cervix is the most difficult form to recognize and usually advances further before being recognized. The technic of vaginal hysterectomy as given by Hall is most beautiful, but the question arises, How many patients so operated upon remain free from recurrence two years afterward? A strong, short-jawed clamp will allow more tissue to be removed than will the ligature.

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Dr. Baldy of Philadelphia said that there is nothing so irrational as vaginal hysterectomy however done. In arriving at conclusions it is not right to select cases, but to consider all cases of a class together. Cervical cancer and fundal cancer are two distinct classes. All cases of cervical cancer, in his experience, die sooner or later, either primarily or by recurrence. Fundal cases, with the exception of those who die under the operation, are cured. It is not fair to consider these two groups of patients together.

Dr. Carstens of Detroit believes that men who employ the abdominal method will have just as much recurrence as those who do the vaginal operation, and yet he does not like the latter operation. He has just as good results from curetting and cauterizing as from the major operation. In every case the prognosis must be made just as bad as possible.

Dr. Joseph Price of Philadelphia said that malignancy is never cured. On the Continent the diagnosis of cancer of the cervix is often made in simple erosion of the cervix. Hysterectomy is then performed, and these cases recover permanently. The free use of the curette and cautery gives as good results as any other treatment. In extirpation recurrences are common, but the deaths are easier.

Dr. Byrne of Brooklyn denied the legitimacy of hysterectomy for cancer of the cervix in any case. According to records it is not justifiable treatment. Excision of the diseased part by the heated knife is what he advocates. Deep cauterization and charring of the parts that are left will permit the patient to live many years. Some of his patients are living to-day, fifteen or twenty years after their operation.

Dr. H. A. Kelly of Baltimore read a paper on "Resection of the Ureter," in which he dwelt on the importance of the ureter as an emunctory and the danger of injury to it in abdominal operations. It may be cut on the surface of a fibroid uterus or be ligated far out with the ovarian vessels or torn in cancerous tissue. After an injury of a ureter it is first necessary to note if it be a dead ureter, that is, if there be no escape of fluid from it. Pass the hand into the abdomen and ascertain if the patient has a normal kidney on that side. If this be sclerotic or functionless, do not do a delicate operation. Uretero-ureterostomy is done when both ends of the cut ureter are accessible and the ureter has not been resected. Ureterocystostomy is done when the ureter is partially destroyed or one end is not accessible. Recently the author hos contsructed ureteral guides to enable one to suture the ends of the cut ureter accurately together, and, secondly, to bring a ureter of smaller caliber to fit a dilated ureter below. The instrument is introduced into the upper end of the ureter through an opening in the ureteral wall (ureterotomy) and stitches are passed through the edges of the divided ureter and the two brought together. He would never drain the abdomen after doing a ureterotomy. These instruments can be used very successfully in the performance of ureterocystostomy, being introduced through the bladder and the ureter pressed forward upon it, the end then being withdrawn into the bladder.

Dr. Dunning of Indianapolis reported a case of injury of the ureter in which he introduced a uterine sound through the bladder into the ureter and drew the latter down into the bladder. In another instance of ureteral injury he was compelled to extirpate the kidney.

Dr. Bovée of Washington stated that a number of operations of this kind had been done for other conditions than operative accident, as after childbirth or to correct abnormal openings in the ureter. Thus far there have been about 80 ureterocystostomies done. The best method in ureteral injury is to suture ureter to ureter; the next best consists in suturing ureter to the bladder. The great danger of the operation is too great tension of the ureter. It is also important to make the anastomosis into the bladder as oblique as possible.

The Symposium on "Inflammatory Diseases of the Female Genitalia" was opened by a paper by Dr. L. H. Dunning of Indianapolis, Ind., entitled "Acute Senile Endometritis." He remarked that the disease as described by Skene is essentially a chronic one, and does not include the cases described in this paper. There is an absence of hemorrhage in Skene's class of cases. The pathologic findings of the cases of the author show they are acute in nature and that they correspond to the cases described by Mundé. The author reports two cases showing a clinical history similar to cancer. In one case there was a cystic degeneration of the ovary and in the other a diseased tube and ovary with mild pelvic inflammation were present. The disease spreads by infiltration from contiguity. The characteristic pathologic features are thickened endometrium, increased vascularity, small round-celled infiltration, diminished glandular tissue, and degeneration of the coats of the vessels of the muscularis. There is not any increase of connective tissue or hyperplasia.

Dr. J. R. Guthrie of Dubuque, Iowa, read a paper on "Inflammation of the Fallopian Tube, with Special Reference to Specific Origin." He stated that the Fallopian tube has been long and persistently neglected. He then gave a brief history of the disease as culled from literature. Among the existing causes are direct injury, sudden checking of the menstrual flow, infection by the gonococcus, streptococcus, and staphylococcus. Latent gleet in the male may cause an acute infection in the female. The development of the disease is of almost incredible rapidity. Noggerath's dictum that "once infected, always infected" is a safe rule to follow. Tubal disease is largely of gonorrheal origin. The disease may be a simple salpingitis or a parasalpingitis may result. The author suggests that a committee be appointed to investigate the ravages of gonorrhea in the female. Syphilis may kill its thousands, but gonorrhea its tens of thousands. The

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importance of gonorrhea in the production of tubal disease has not been appreciated.

Dr. A. H. Cordier of Kansas City, Mo., presented a paper on "Tubercular Peritonitis," in which he remarked that primary tubercular peritonitis may be produced by the presence of the tubercle bacilli in the blood. The cheesy masses may or may not contain living bacilli, but most of them at an early date contain spores which may produce trouble. In the early stage of the disease the ascitic fluid is bloody, showing a certain amount of acute inflammatory action. The quantity of fluid varies from a few ounces to several gallons. The pleura is more frequently involved than any other tissue by the tuberculous process. In tubercular peritonitis ascites is not as great as in cancer, nor is it as prone to become bloody. Pain is absent in many cases and may simulate gastro-intestinal colic. In some cases it is acute, with exacerbations simulating an acute septic type of peritonitis. In some cases the patients do not lose weight but may even gain in weight. Negroes are especially prone to this disease. Typhoid fever is the one disease most liable to be mistaken for this condition. In chronic cases diarrhea is apt to ensue. Constipation is noted in other cases. Sluggishness in circulation is noted locally and marked diapedesis is present. All fluid should be sponged out at the time of operation. Pockets must be opened, pus drained, and the abdominal cavity flushed out. Constitutional remedies should be used in all cases.

Dr. Philander A. Harris of Paterson, N. J., presented a paper entitled "A Plea for More Frequent Avoidance of Exsection of the Ovaries in Connection with Resection of Diseased Tubes." He stated that many gynecologists who began by removing the ovaries with the tubes are continuing to do so as a routine practice. Only a small proportion are now removing the tubes and leaving the ovaries. He claims that the good results which have followed removal of both tubes and ovaries for disease which was forming in the tubes can in most cases be secured without sacrificing the ovaries, thus preserving for such patients as much ovarian tissue, menstruation, and consequent ovarian influence, as possible, and not entirely, and so often unnecessarily, depriving them of the possibility of conception. He divides all conservative cases into two classes: (1) Any operation in which a portion of the tube is removed between the fimbria and the uterus, which he terms *amputation of the tube;* (2) cases in which an incision is made into the uterine wall and the tube removed, the uterine incision then being closed, which he terms *excision of the tube.* Excision neither arrests ovulation nor menstruation, but prevents fecundation. Pregnancy is possible if the stump remains patent. Complete removal of the tubes and ovaries results in arrest of menstruation and ovulation and thereby induces a series of phenomena indicative of the change of life. The patency of the tube has been noted in many cases after operation. Septic troubles may result from this condition and the symptoms of the disease persist after the operation. He believes many such stumps either have or subsequently acquire an ostrum abdominale. Removal of the disease from the Fallopian tubes and uterine sinuses will cure the disease in many cases without removal of the ovaries.

Dr. Joseph Price of Philadelphia presented a paper on "Appendicitis Operations in Young Women and Girls." He stated that his paper was a short one offered to invite discussion. It was formerly thought that appendicitis was more common in males than in females. He now believes that the proportion is about equal. Young students seem very prone to the disease. At times it occurs in several members of one family. Some cases in women are postpuerperal in origin. In about 9 per cent. of pelvic disease the appendix is involved and requires removal with the uterine appendages. It is unsafe to wait for subsidence. In such cases sloughing and abscesses will result. It is difficult to urge the profession to prompt interference. Certain localities seem to predispose to the disease. Thus, it is common in Morristown and West Chester and in a broad district of Philadelphia. Early interference always results favorably.

Dr. Dudley of New York stated that he is working in conservative ovarian surgery and has had 145 consecutive operations without a death, and 25 pregnancies have followed. In five cases he has removed the appendages, sewed over the stumps, implanted a section of an ovary in the fundus uteri, leaving one-half of the ovary dependant in the uterine cavity. Four of these women have continued to menstruate. In none of the five has the ovary been thrown off from the uterus, and in none have the symptoms of the menopause followed.

FOURTH DAY—JUNE 8TH.

Dr. B. B. Massey of Philadelphia read a paper on "The Treatment of Menorrhagia (Dysmenorrhea) of Pelvic Origin by Electricity." He strongly protested against the teaching of the text-books and journal articles which represent that dilatation of the cervix uteri is the preferable treatment of organic types of dysmenorrhea. He quoted instances in which this method of treatment was not only unnecessary and ineffectual, but actually harmful. He claims that electricity yields the best results in this condition and described in full the method of its application.

The Dosage of Orphol.—In all the instances in which the fecal discharges are unduly offensive orphol is exhibited, but usually in quantities too small to produce the best results. Bearing in mind the innocuous nature of the drug, the rapidity of peristalsis in most cases in which it is indicated, and the amount of material to be disinfected, the remedy should be given in relatively large doses (10 to 15 grains for adults) and frequently repeated.

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ORIGINAL ARTICLES.

THE PREVENTION OF DYSTOCIA DUE TO FETAL AND PELVIC DISPROPORTION.[1]

BY EDWARD A. AYERS, M.D.,
OF NEW YORK.

LOOKING at the practice of obstetrics from a broad point of view, for the purpose of strengthening and improving its weaker parts, one cannot but be profoundly impressed with the importance of the subject of dystocia due to fetal and pelvic disproportion; painfully impressed with the careless inattention generally given it, and enthusiastically impressed with the possibilities of improvement in the management that will reward conscientious effort at prophylaxis. To such dystocia must be attributed a large proportion of obstetrical diseases and deaths. Exhaustive labors, consequent hemorrhages, sepsis, forceps, version, major operations, ruptures, lacerations, gynecological sequelæ, and all the possible injuries to the fetus, from cephalhematoma to death, make up a list that is almost the catalogue of obstetrical evils.

I wish to consider briefly the subject in two divisions. First, to what extent can we foresee the outcome of fetal passage through the maternal pelvis? Second, to what extent can we, by means of such foresight, prevent the evils that threaten?

In multiparæ, who should be considered apart from primiparæ, we have as aids to prognosis the previous history of labors, and in both classes parental characteristics, pelvimetry, fetal palpation, cephalometry and tentative engagement of the fetal head—Müller's test.

If a pregnant woman has had one or more children we should seek to learn what was the presentation, the length of time of the first stage of labor, when the amnion ruptured and why, how long a time it was from the beginning of regular and strong pains before delivery, what was the shape of the child's head when born, how much of a caput was formed, if forceps were used, and the weight of the child. It will be seen that the main purpose in these inquiries is to learn how near to obstruction the fetalo-pelvic proportions were. If the child weighed, for example, seven pounds and there was no head-molding, nor special effort in delivery, it would be very unlikely that there would be any obstructive difficulty in the coming labor, even although the child might prove larger by one pound. But, if marked molding and use of the forceps entered into the history, the coming labor would be classed as uncertain, for a larger child might not even engage at the brim.

There are, in some families, variations in the weights of successive children at birth of from one to three pounds, excluding immaturity of some of the children. But such extreme differences are very rare, and we can rely upon the rule of slight, but progressive increase of weight from youthful parentage up to thirty-five years and decrease thereafter. The problem of forecast in primiparæ is much more difficult, there being no labor-histories by which to gauge proportions.

Parental Characteristics.—It is quite as profound a statement that, as "a tree is known by its fruits," so is the fruit to be foreknown by the tree. General characteristics of parents is a very interesting study bearing on the size of offspring. In the lower animals, where definite strains are sharply defined it is a certainty what the physical characters will be in the young.

In man the tangled skein of cross-breeding greatly confuses the problem of offspring type. Regarding the physical characteristics of the parents I consider the bones as most helpful in forming a prognosis of fetal size at birth. The heaviest children are generally born of parents with large bones. The parents' features are massive, their wrists and ankles are large, and their weight is decided and is largely due to the bones. If with such parental structures there is a mutual family history of high intellectual development, we may expect large head diameters in the children at birth. The reverse of light frameworks holds good for smaller and more easily molded fetal heads. I shall refer again to this matter of the bones under pelvimetry. Where the parents are of opposite types, I believe the mother's characteristics will preponderate. The larger the number of members of a family who can be considered on both sides, the surer becomes the basis of estimate of what the fetus will be at birth. I believe that the father is not given due consideration as a rule. Perhaps, in hospital work, because he is an unknown quantity. Engelmann has stated that dystocia was greatly increased in the case of Umqua Indian women impregnated by white men.

Parental nutrition, more particularly that of the mother during pregnancy, has much to do with fetal size at birth. Prochownick's theory regarding diet, that the use of nitrogenous food from the beginning of the seventh month would so retard osseous growth as to avoid dystocia, no doubt has considerable truth in it, although we must feel that the fetus will generally act as a true parasite and get what it wants if there is any of it to the sacrifice of the mother's

[1] Read before the Section on Obstetrics and Gynecology of the New York Academy of Medicine, April 26, 1900.

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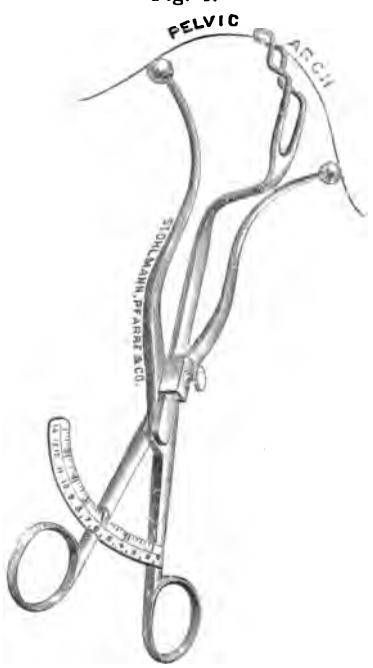
needs. Hard work and starvation are more apt to induce premature labors than smaller children at full term. Excess of fat in the mother increases the amount of soft tissue in the pelvic canal, but more materially causes dystocia in that the dynamic force in expulsion is weak. So, likewise will anemia, chlorosis, or other weakening conditions affect expulsion. Some women get muscularly weak, "soft," through the lack of exercise in the heavy months of pregnancy. The loss of *vis a tergo* is the equivalent of a large head.

Pelvimetry.—Pelvimetry partakes of both science and art, and is the basis of calculation of pelvic caliber; but it always includes the algebraic x in the equation. The external measurements are but an argument of probability.

It may be stated, as a rule, that we are more liable to error in estimate of the inlet diameters when the external measurements are large than

Fig. 1.



Pelvimeter.

when they are small. This for these reasons: (1) When the external measurements are under the average, or even what we consider proper proportion in a given case, our suspicion of coming trouble is aroused, and we make a very careful study of the case. When the measurements are large we are lulled into superficiality in internal examinations. (2) Large external measurements accompany heavy bony framework, and large, thick bones encroach further upon the pelvic caliber than light bones of the same outside dimensions. I have seen this markedly exemplified in some of my extreme cases of dystocia, and have been led thereby to give greater weight to what is stated here regarding the consideration of the skeleton in general.

To what extent should the external measurements determine the amount of care exercised in securing internal measurements? I can find but one answer—to no extent, so far as lessening the latter, but, in certain cases of asymmetry, they should extend the examination. But perhaps more will be accomplished generally if we do not make the standard too arbitrary. When a mother has had a satisfactory delivery-history we need not make thorough internal measurements. And, further, where we find the promontory beyond the reach of the second finger, and the tentative engagement of the fetal head satisfactory, it is not necessary to take all the internal measurements. When the plane of the symphysis lies out at the upper border, or in at the lower, as one pleases to express it, if this is not noted, we might conclude from the diameter of the diagonal conjugate that the vera is shortened, whereas just the reverse would be true. And conversely as regards the plane of the symphysis, the vera would be short just when the diagonal is long.

Measurements of the pelvic outlet, I believe, are not generally taken. Inattention to this will, although rarely, lead to unexpected trouble. The pelvis may be funnel-shaped, wide at the inlet and narrow at the outlet. I recall two cases, in one of which the child was delivered by Cæsarean section and in the other by symphysiotomy. In both the fetal head passed the brim without special difficulty. I know of no dyscrasia that should suggest this form of pelvic deformity. Clinically, we must always give attention to the width of the pubic arch, the interischial and coccygopubic diameters when examining for the diagonal conjugate.

Practice will generally enable one to suspect outlet-contraction at this time, and actual measurements may be taken. I take the liberty of exhibiting a pelvimeter which I had constructed for taking these measurements. With the upper bar in place the instrument measures the width of the pubic arch at a given level below the supremity of the arch, giving a purely arbitrary, but fixed plane of measurement. By removing the upper bar the internal diameters of the middle plane of the true pelvic basin—of the ischiæ and of the coccygopubic—can be taken with accuracy.

Abdominal Palpation.—This will enable us to only approximate the true dimensions of the fetus and particularly its head. This approximation will advance *pari passu* with practice. In cases of large pelvic space the fetus generally lies low in the inlet after the thirty-second week, but not always. In cases of contraction of the conjugata vera the head always lies high, is freely movable, even has a tendency to lie a little to the right or left of the center, and, because it lies high, is apt to increase the degree of anteversion of the uterus as a whole.

Cephalometry.—When all knowledge of pelvic dimension that our skill can obtain has been se-

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cured, we have but one-half of the equation solved. The volume and diameters of the fetal head compose the other half. The variations in head diameter in different cases are not as great as those of the pelvis, but they are sufficient to require as approximate a measurement as we endeavor to obtain of the pelvis. The efforts of Ahlfeld to estimate head dimensions by measurement of the distance from coccyx to vertex, of Dubois by the length of pregnancy, and of Gönner and Bruyère by measurements of the fetal feet, have all proved useless. Perret claims that the biparietal diameter is 25 mm. less, in the average, than the occipitofrontal diameter, and that he can, with his cephalometer, secure the latter diameter with satisfactory accuracy. He palpates the head at the inlet in the ordinary manner and applies the tips of the instrument to what he decides to be the occipitofrontal diameter, notes the distance, and then pinches up the skin of the abdomen and subtracts its thickness, as determined by actual measurement, from the given diameter. He then subtracts 25 mm. from this, which gives the biparietal diameter. All of this assumes that the head lies in a normal balance between chin and occiput extension and that the occipitofrontal diameter can be palpated from above the pubes. As a rule this would be a fair assumption.

In certain patients, such as have thin abdominal walls and flaccid uteri, this measurement of the occipitofrontal diameter can be taken with accuracy. In those with tense uteri, which are distended by amniotic fluid, and thick, or tense abdominal walls, the degree of accuracy would be much less. Again, the variation in some cases between the occipitofrontal and biparietal ratio would be more or less than 25 mm.

Perret reports from the published cases of himself, Dubresay, Constans, Denys and Weill, the results in 186 examinations. In 36 of these the biparietal diameter, as estimated, was correct. In 140 the error was not greater than 5 mm. In 10 the discrepancy was over 5 mm. He suggests an *argumentum ad hominem* in stating that of these 10 cases 8 were in the list published by Denys, which might be taken to mean that the results depend upon individual skill. One case gave an error of 7 mm. due to the unfavorable condition of the patient. Taken at their face value, these results are remarkable and call for active and careful verification. In 94.6 per cent. the error was not over 5 mm.—a little less than one-fourth of an inch. Combining such head measurements with the accurate measurement of the conjugata vera that can be obtained with Hirst's pelvimeter should result in a long stride toward scientific accuracy in ascertaining pelvic and head diameters and proportions.

Müller's Test.—There are two methods of directly testing, during pregnancy, the question of engagement and passage of the head during labor. One, by placing the fingers of both hands above the pubes and pressing the head into the inlet, the other by holding the fingers of one hand against the head in the vagina, with the uterine wall between fingers and head, while the other hand presses the head down from above the pubes. In markedly contracted pelves the head stops absolutely when it comes against the brim. In the spacious pelvis the head is stopped gradually. There is, of course, every grade between these extremes of tentative engagement. The chief difficulty for the examiner is in estimating the effect of the soft parts in resisting in-pressure of the head. Here is where the results will largely depend upon the amount of practice one has had, and I believe that all experienced obstetricians will agree with me in the statement that very accurate opinions can be formed, not only as to absolute obstruction in extreme cases, but as to whether much, or little molding, will be required, if one has practised long and faithfully.

Lastly, it may be stated, that, where the lowest part of the presenting head reaches a plane on a level with the subpubic arch and parallel to the plane of the inlet, it may be expected to engage in labor.

Speaking from the standpoint of the specialist, of the obstetrician who has worked long and carefully to attain the utmost skill in diagnosis, is it not time for us to readjust our attitude toward this question of head and pelvis dystocia? Instead of being guided by the question of duration of pregnancy, a question that is so hard to solve with accuracy, should it not be our aim to place chief reliance, and much greater than heretofore, upon the physical examination? Estimation of the duration of pregnancy by calculation from the last menstruation, quickening, nausea and abdominal distention has always been exceedingly unsatisfactory, and can never possibly become accurate, owing to the variations in growth for a given period of gestation. We must learn to rely upon actual measurements and tentative engagement of the fetal head to determine, not the period of pregnancy, but the question of dystocia. Incidentally this would enable us to learn also of conditions that are the equivalent of longer time, such as hydrocephalus.

Any practical results from the above carefully-applied efforts to make early diagnoses of dystocia must obtain in either *the restriction of fetal growth, the induction of labor, or preparedness for obstruction in labor.*

The Restriction of Fetal Growth: Diet.—If, by means of diet, we can restrict the growth of the fetal body and retard ossification of the cranial bones during the last six weeks of gestation, and, at the same time, enable the child to escape the dangers of prematurity, that is, control the production of a small but mature child, we will secure the very best method obstetrics can devise for avoiding the dystocia due to fetal head and maternal pelvic disproportion.

Rowbotham seems to have been the first to have experimented in diet for the prevention of dystocia, publishing successful reports in 1841. He restricted the diet largely to vegetable acids

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with the intention of preventing the formation of earthy salts. In 1889 Prochownick published a paper, "An Attempt to Replace Artificial Premature Delivery," in which a diet was advocated that proscribed entirely water, soups, potatoes, cereals, sugar and beer. It permitted for breakfast a small cup of coffee and about six drams of zwieback. For lunch any meat, eggs and fish, some green vegetable and fat, some salad and cheese. For the evening meal one and one-half ounces of bread and butter, as wanted, were added. Fluid was limited to 12 to 15 ounces of red or Moselle wine a day. He began this diet in his first case seven weeks before labor, which occurred at term. Four previous labors had resulted in failure, two from perforation and version, and two from induced labor. This labor resulted well, the child weighing 5 pounds, and "acting like a mature child." Horn[1] has since reported a series of 47 cases of treatment of dystocia by Prochownick's diet, 13 of which were by Prochownick, in which all the mothers and children lived. In one of Prochownick's cases the diet failed to cause restriction of growth. These results are very encouraging. I have not yet tested the method in my own practice, but hope to do so ere long. We are all familiar with the effect of hard work and scanty supply of food upon the period of pregnancy and the growth and vitality of the child. This combination must not be confounded with Prochownick's system of feeding, which, he claims, is not a starvation diet at all, although possibly some of our well-cared-for patients might think this a distinction without a difference. I know of no case in which the diet has caused labor to occur ahead of time.

The Induction of Labor.—By the induction of labor we have the one other, and certain, preventive of dystocia, the chief, and almost only objection to its employment, being the risk of fetal death from immaturity. It is unquestionably a fact, however much we may stand theoretically opposed, that induced labor takes precedence over all other measures in threatened dystocia in obstetric practice amongst the well-to-do. There is no denying, too, that this represents a distinct element of sacrifice of the child's interests as compared with major operations at term. Obstetricians likewise show a similar preference, usually in proportion to their inexperience with the two major operations. But if, considering the question raised in this paper, we extend the field of induction of labor to include the minor grades of contraction, those belonging to forceps delivery, then this distinction between the major operations and induced labor grows less, inasmuch as the degree of prematurity of the child at birth is slight.

The problem to be answered is: Does a child born two to four weeks before term have a better or poorer prognosis than born at term after hard labor and delivery by forceps or version? There is not time to enter into detailed argument in answer. It would always depend upon the conditions in each case, the element of greatest variability being the physician in the case. An important feature of the question is that in cases at term which lie between possible forceps-delivery or symphysiotomy or celiohysterotomy, many would be deliverable by forceps-traction if the advantage of head molding could be secured. But the head just misses engagement, so that all the benefit of reduction in diameters is lost. This will mean a difference of from one-eighth to one-half inch in the engagement diameters of the head. From two to four weeks earlier delivery in such cases would secure engagement and consequent reduction by molding.

Further let us note that, in weighing the evils of induction against forceps, it is not only a question of comparative mortality of the children but morbidity from the use of the forceps. It is strange how little attention has been given this subject. Injuries which must cause permanent damage are: Depression of bones, fracture of bones, fracture and compression of the brain, rupture of vessels in the brain or meninges and paralysis and fatty degeneration of the facial nerve. As to the relative danger to the mothers in induced labor and dystocia delivery, they are, no doubt, greater in the latter than in the former.

Finally, as a detail in the induction of labor, I venture to suggest, that, in my opinion, the best means of excitation are: (1) The sterile, solid, flexible bougie—which should be tapering and not blunt, to more surely avoid puncturing the amnion; (2) the small Barnes bag, used very slowly to excitation of pains only, and (3) the tampon, any of these to be preceded by the administration of a full dose of castor-oil.

[1] Monats. f. Geb. u. Gyn., VIII.

THE TREATMENT OF TUMORS COMPLICATING PREGNANCY.[1]

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THIS present paper is limited to a brief consideration of the dangers incident to the complication of pregnancy by various new growths involving the uterus or pelvis, and to the methods by which these complications can be best treated. The limited time allotted necessitates the omission of statistical data and references to the literature and confines the remarks to the most practical points.

Cancer.—In the early stages of cancer impregnation frequently occurs, and, while abortion is frequent, two-thirds of the cases go on toward term. The cancer, under the stimulus of the increased circulation and succulence of the tissues incident to pregnancy, grows and spreads with extreme luxuriance and the cachexia increases rapidly. Some of the women die before term

[1] Read before Section on Obstetrics and Gynecology of the New York Academy of Medicine, April 26, 1900.

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from exhaustion or from a septic infection from the breaking-down cancer tissue, an infection which may be the result of bruising incident to even repeated digital examination. If they abort, there is increased risk from sepsis and hemorrhage. If labor at term occurs, over 30 per cent. succumb when delivery takes place spontaneously, many of these from rupture of the uterus, while about 50 per cent. die where the aid of forceps or version or craniotomy has increased the traumatism and subsequent exhaustion, hemorrhage, sloughing and sepsis. About 40 per cent. of the children are born dead and nearly all are of feeble vitality. This certainly is a gloomy picture, but it is not exaggerated and it warrants us in employing the most radical measures if by so doing we can lessen the immediate danger to the mother. A child soon to be motherless and of the most problematical vitality deserves only secondary consideration.

Treatment.—In the presence of cancer of the cervix it is usually impossible to be certain of pregnancy before the end of the third month. Here the child should be entirely ignored, for the operative indication is even more urgent than in the unimpregnated condition. While the uterus is yet small, it and the upper vagina should be removed by vaginal hysterectomy or by Werder's operation. When the conditions are favorable the vaginal operation is best. It should be begun by a circular incision of the vagina 4—6 cm. below the cervix, the vaginal walls being dissected off so as to form a cuff about the cervix, and clamped together by a stout pair of forceps, as suggested by Goffe, so as to shut off the cervix and its infectious material. The operation is then finished in the usual manner.

When the disease is more advanced or the body of the uterus is larger, Werder's method is advisable. Here the ovarian and uterine arteries are tied through an abdominal incision and the uterus freed from bladder and broad ligament without cutting through the vaginal wall. The vagina is then freed from its attachments by blunt dissection as far down as is thought advisable, and the uterus drawn down and out through the vulva by stout traction-forceps attached to the cervix. The peritoneum is then united over the fundus, the abdominal wound closed, and the operation completed by removing the uterus after dividing the inverted vagina at the point selected. If the uterus is too large to pass easily through the vagina in this way, a supravaginal amputation should be made to lessen its bulk before the removal below of the cervix and vagina. This method is ideal, in that it avoids any contamination of the peritoneal cavity or of any cut surface by septic or cancerous matter.

When the condition is discovered during the fourth or fifth month of pregnancy, immediate combined hysterectomy is still the procedure of choice. During the sixth month and later the viability of the child must be considered and the question of waiting until this is assured comes up. When the child is viable, induced labor and hysterectomy or Cæsarean section and removal of the uterus and vagina should be done.

When the case is first seen at term we may find cancer at so early a period that its diagnosis is uncertain. At this stage it does not prevent dilatation of the cervix, but predisposes to deep tears. When the disease is more advanced, but still combined to one lip, it may be scraped and cut away and dilatation aided by multiple incisions and rupture of the membranes so that the pressure of the head may aid in controlling the bleeding which, however, is not usually alarming. Where the cervix is extensively involved or where the cancerous masses are large, Cæsarean section and immediate removal of uterus and vagina is indicated. In these instances craniotomy on a living child is not justifiable, as the mother is doomed in any case, and the crushing and tearing incident to forcible delivery will probably hasten her death more than the abdominal section.

Where cancer affects the vulva, vagina or rectum, remove the mass, if small, and deliver per vaginam; but if the disease is advanced, the abdominal incision gives the best results.

Fibromata.—In the presence of uterine fibroids the chance of pregnancy certainly seems to be lessened, and when the woman is pregnant the risk of abortion is increased. Abortion in these cases is particularly dangerous from hemorrhage and sepsis.

It is certain that fibroids grow very rapidly when stimulated by the increased blood-supply incident to pregnancy, that they show an increased liability to inflammation and to cystic degeneration, often become very soft and succulent; on the other hand, they also quite frequently shrink rapidly or disappear during the puerperal period. This sudden augmentation in size, especially when the growth occupies the upper part of the cervix, rapidly increases any pressure symptoms that may have been present before impregnation.

Interstitial tumors, whether single or multiple, grow most rapidly, particularly in cases where the uterine wall is much thickened. Subperitoneal tumors, especially pedunculated, if near the fundus, do not grow as rapidly and are not as important in their effect on labor unless when very large. With submucous tumors of the body of the uterus, pregnancy rarely occurs and practically always ends in abortion. In general, the higher the situation of the tumor and the more it approaches the subperitoneal type, the less the danger; the most serious cases are those in which the fibroid occupies the pelvic cavity.

The presence of a fibroid is a cause for inefficient or irregular uterine contractions, and as the proper uterine reaction is interfered with, postpartum and puerperal hemorrhages become a serious danger. The condition predisposes to a vicious insertion of the placenta and to malpresentations of the fetus. Uterine rupture is not uncommon, being favored by the obstruction offered by the tumor and by the degenerative changes in the uterine wall caused by the pres-

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ence of the fibroid. Inflammation and sloughing of the tumor from the pressure and bruising to which it is subjected during labor is very common and brings with it a most grave risk from sepsis. Excluding subperitoneal tumors of the fundus, the maternal mortality in labor complicated by fibroids has been in the past over 50 per cent., and the mortality to the fetus nearly as much.

Treatment Before Labor.—With small subperitoneal tumors of the fundus and a pregnancy well advanced, expectant treatment is allowable, but during the early months of gestation myomectomy is indicated and can often be done without interrupting the pregnancy. Where the tumor is at the lower uterine pole, enucleation per vaginam is best, as a waiting plan exposes the patient to great risks. With interstitial tumors of the body of the uterus, supravaginal hysterectomy is better than either abortion or premature labor and is easy because of the relaxation of the broad ligaments caused by the pregnancy.

During Labor.—With fundal tumors it is only necessary to be ready to secure contraction during the third stage. If postpartum hemorrhage occurs, explore the cavity of the uterus with the hand, as sometimes fibroids are found that can be easily enucleated, and then pack with gauze. Give ergot. Inversion occasionally follows delivery with tumor of the fundus and necessitates immediate enucleation and replacement, or if this is impossible, perform a hysterectomy.

If the fibroid obstructs labor and is in the anterior wall, it may sometimes be pushed out of the way with the patient in the knee-chest position, or it may be drawn above the brim by the uterine contractions. This cannot happen if the tumor is lateral or posterior. Tumors of the cervix must be enucleated when possible, as even when very small enucleation is less dangerous than forcible delivery. Fibroid polyps, detected only after labor, should be removed, as they are apt to slough and cause sepsis. If the fibroid obstructs labor and cannot be gotten out of the way it is nearly always better to do a radical abdominal operation than to run the very grave risks of sloughing and sepsis which so often follow forcible delivery by forceps or version.

To be successful these operations must be done early, and not late when the patient is exhausted, bruised and septic. If any sign of inflammation or sloughing appears after labor it must always be regarded as an absolute indication for removal of the tumor.

Ovarian Tumors.—Cysts or solid tumors of the ovary form a rare complication of pregnancy and labor. Small tumors, especially dermoids, are most dangerous, as they are most likely to become impacted in the pelvis. Large cysts are not likely to block the pelvis, but they produce great discomfort from pressure and are particularly liable to rotation and twisting or even tearing-off of their pedicles. The dangers incident to delivery by forceps, version or puncture from twisted pedicle, rupture of cyst, intracystic bleeding, suppuration of cyst-contents, intestinal occlusion, septic infection and peritonitis, are so great that the records show a mortality of nearly 50 per cent.

Treatment.—When seen early in pregnancy there is no doubt but that an abdominal section, preferably by an intermuscular incision similar to that now employed in operations for appendicitis, with removal of the cyst, gives the best results. After the fifth month, if the cyst is not impacted and not large, it is right to wait till the fetus is surely viable before operating, but the patient must be kept under constant supervision. At term, if the cyst is small, the child may be driven past it by the natural efforts of the mother. At times the cyst may be pushed above the brim, the patient being anesthetized, if necessary, and put in the knee-chest position. If the cyst is not impacted and labor is progressing well, operation should be deferred until after the birth of the child. With an impacted cyst, puncture or incision through the vagina and delivery by version or forceps would seem the most natural thing to do, but the mortality is so great that it can very rarely be justified. Cæsarean section or supravaginal hysterectomy and removal of the cyst offer the greater chances of safety to both mother and child.

In addition to the three important classes of tumors that have just been discussed, labor may be obstructed by bony outgrowths over certain of the pelvic joints, enchondroma, cysts of the pelvis, hydatid cysts, sarcoma or cancerous infiltration, displaced kidney, and by the muscle-mass that sometimes results from ventral fixation of the uterus. In any of these conditions labor may terminate through the pelvic channel when the mass can be pushed aside or removed, but where the obstruction is serious, Cæsarean section by modern methods will save more lives than forcible dragging of the child through the pelvis. My experience is that during pregnancy abdominal operations in general are well borne and, because of the elasticity and succulence of the tissues, are not as difficult as would be supposed. When possible, see that the excretory organs are put in the best possible condition, avoid all unnecessary hemorrhage, and, particularly, use the most rigid precautions against any septic infection.

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THE INDICATIONS FOR PREMATURE DELIVERY, WITH SPECIAL REFERENCE TO ECLAMPSIA AND THE PRE-ECLAMPTIC STATE.[1]

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IN discussing the subject of the indications for premature delivery, I shall dwell particularly on those offered by the toxemia of pregnancy as well as those indications induced by a disproportion

[1] Read before the Section on Obstetrics and Gynecology of the New York Academy of Medicine, April 26, 1900.

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between the fetal head and the maternal pelvis. All other indications, and many there are, will simply be mentioned in passing, and for the reason that, while in the latter, for instance, cases of placenta previa and the malignant forms of vomiting of pregnancy, the indications for the interruption of the gestation are well defined and fairly well understood by all practitioners, yet for the former, eclampsia or the pre-eclamptic states, and the subject of pelvic distortion or contraction, relative or absolute, there is such a mist of doubt surrounding the whole question, that many hardly understand the subject at all. On the other hand, there are those who are so confused by the varied and alternating views of our teachers and leaders that they are really at a loss to recognize a means for the induction of premature labor in the conditions just mentioned.

I have always maintained that success in midwifery is not attained by skill in operating. Far better is he, the skilled accoucheur, who can place the indications; for when the indication is well placed, the operation becomes a secondary consideration. An operation, the indication for which is false, can only end in disaster, no matter how skilfully done; on the other hand, clear and concise indications, for no matter what form of obstetric operating, are always followed by good results. The one depends upon the other. In placenta previa, central or partial, or situated dangerously near the dilating zone of the uterus, even though this vicious situation of the placenta is not within reach of the examining finger, and therefore only strongly suspected, there is an almost universal tendency among modern obstetricians to empty such a uterus at once. Until this is done, the woman as well as the fetus is in constant danger from severe and exhausting, if not fatal, hemorrhage. I could go on mentioning such indications by the score, but since there is hardly a difference of opinion in these clear cases, we have but little to discuss.

How different is the condition in eclampsia, or what is a preferable term, the toxemia of pregnancy. At once this confusion of names makes the subject difficult, for we recognize the fact that we are fighting a pathologic state whose vicious complex of etiology and diagnosis is difficult to penetrate. Were there unanimity of opinion, we would feel right in our deductions, even although absolutely wrong, for we know no better. We are no nearer the solution of this problem of uremia or urinary toxemia to-day than we were years ago. All that we can state to-day, and modern scientific investigations do not allow us to state more, is that the system is influenced by some unknown toxic material, arising in the body *per se*, thus constituting an autotoxemia. Whether such depends on the liver, the intestinal tract, the fetus or the kidneys, one or all, is the unknown element and the great stumbling-block. On the other hand, there is the possibility of it being a disease of the heterogenetic infective type, having a bacillary origin with its bacterial toxins. Theoretic reasoning is good and nice as far as it goes, but at the bedside of a woman threatened with so dangerous a complication, we want facts to guide us and treatment to help us. Clinical experience is our best teacher, and this shows us that eclampsia is closely allied to, and largely associated with, kidney inadequacy, and the surest method of treatment is the rapid return of diuresis.

This leads us up to the question when this condition obtains, how long may we procrastinate and treat medically? We are told that when medicines fail, surgery steps in. When are we to know when to interfere? Is it when the woman is already in the throes of a convulsion with its appalling death-rate? Can we predict when the first convulsion is to occur, or, when it occurs, do we know that it will not terminate fatally? Our treatment must be early and timely. I cannot understand the position taken by French surgeons, who, even in the face of convulsions, advise temporizing, for the fear of inciting more violent or more frequent spasms by such active interference. If their results following this waiting policy are in accord with ours, how awful must be the death-rate!

In the study of the pre-eclamptic period, we recognize two conditions which are the direct causal factors in producing it. The first, the true, frank complicating albuminurias, or the exacerbations of an antecedent condition; the second is little recognized because of the complexity of its etiology, and the supposed difficulty of diagnosis. It is a condition in which there appear none of the characteristics of a true acute (parenchymatous) nephritis of pregnancy, but nevertheless in the unrecognized case carries with it a prognosis which is very bad, but just the reverse when timely treatment and interference are instituted. It is variously denominated by the terms, uremia, urinemia, or the true toxemia of pregnancy. In the first class of cases, we have the prominent symptoms clearly defined by urinary examinations. This calls our attention to the fact that close chemical analyses must follow in order to clear up in our minds what is the sole dominant pathologic entity which produces the constitutional symptoms. In addition to the albumin and the casts we turn our attention to the amount of urea excreted and upon its diminution and increase will depend absolutely our further course of treatment. That urea is the agent that is provocative of eclampsia is to my mind proven beyond a doubt. Clinically, by the increased toxicity of the blood of the patient and the diminished virulency of the patient's urine. In personal practical experience, in a large number of women in whom a toxemia was not present, even although albumin was found in large amounts in the urine, 5 per cent. of all pregnant women have an albuminuria. I have seen a great many women with all the urinary symptoms of an acute or chronic nephritis, but have *never* been compelled to induce labor, nor have imminent uremic symptoms ever occurred as long as the urea has been excreted in normal amount. By a

normal amount of urea, I mean the estimation from a sample of the total urine; in round figures, about 500 grains per day, in women otherwise healthy. For it must be remembered that underfed patients, such as we see at the hospital, persistently excrete a smaller amount of urea without symptoms. Further, it must be borne in mind that persistent vomiting, such as occurs occasionally in pregnancy, will markedly diminish the urea excretion, and is dependent upon it, not, as we have been told, that the excessive vomit depends upon the diminished urea.

Urea is the chief product of the body oxidation of albuminoids and the amount thrown off indicates the amount of disintegration of nitrogenous material. What is of greater importance is the fact that in a number of cases, most of them fatal, is that class in which the most careful examination is negative so far as albumin and casts are concerned. Such are cases in which violent convulsion occur, always preceded by classic symptoms of a true uremia. In them the only suspicious condition is the marked diminution of urea. It is this urea that kills, not the albuminuria. If we can only impress this fact upon all medical men, that the estimation of urea is of far greater importance than the presence of albumin, our position will become of some worth. A special emphasis is laid upon the fact that in the majority of albuminurias we simply have a day's signal as a warning of an impending catastrophe. On the other hand, the absence of albumin means absolutely nothing in the presence of certain symptoms. We wish to go on record as stating that the induction of premature labor is never countenanced by the mere presence of albumin in large or small amounts and casts, but always strongly advise the prompt emptying of the uterus in all cases in which scientific medical treatment fails and the urine shows a progressive diminution of urea.

To recapitulate: (1) Toxemia of pregnancy is a complex condition depending on more than one factor. (2) Many women go to term with albuminuria without symptoms referable to toxemia. When such symptoms arise, they are not caused by the albumin present, but faulty urea excretion is always found. (3) In the most desperate and malignant cases there is found neither albumin nor casts. (4) Urea is always found markedly diminished in these so-called true toxemias of pregnancy, or urinemias. (5) Finally, we make a strong plea for a regular and methodical course of urea estimation in all cases instead of, or relegating to secondary importance, the time-honored examination for albumin. (6) Progressive diminution of urea excretion with or without albuminuria is our sole indication for the induction of premature labor which is especially indicated when conscientious medical treatment fails.

The next topic to be considered is the indication for the induction of premature labor for disproportion between the fetal head and the maternal pelvis. It will be noted that I ignore absolutely the term "contracted pelvis," as the title for the second division of the article. This is done purposely, for my experience with many so-called contracted pelves has made me an almost utter skeptic as to its frequency and makes me feel that a true contracted pelvis is a rare condition. The only true contracted pelvis that I *do* admit is one which will not admit the passage of any child, living or dead, entire or totally dismembered. In all other cases, it resolves itself into a question of disproportion between the head and pelvis, *i.e.*, between passenger and passageway. What is a normal pelvis? The answer is a frank one. I do not know. We can never measure a pelvis, we can only estimate its diameters. Very few pelves are absolutely contracted; all may be relatively so. Given a certain pelvis the diameters of which we have carefully estimated, in one labor everything goes smoothly because the head is of average size and well posed; in the same pelvis, a year or two later, the most difficult form of operating may become necessary because of the large head. This I realize is an extreme case, but have we not all met such? Such disproportion will give the accoucheur more to think about and more worry than is likely to occur in labors with the pelvis one or two inches smaller all around with a small fetus as a passenger. It is and always has been the size of a particular head passing through a particular pelvis which has caused the dystocia, and in the largest number of cases the sole cause of a supposed pelvic contraction. We do not measure the pelvis by inches, centimeters or millimeters, as our learned friends in other cities do, but we gauge its receptivity and capacity; no matter how narrow a pelvis may be revealed to us by the pelvimeter, it is never so small but that a child may be born through it either naturally or by minor operative measures; this, of course, always depending on the size of the child. I feel that such a statement will stir up a hornet's nest, but it is made advisedly. To go into details by quoting case after case to prove these assertions, is foreign to my mind, but generally speaking, I will say that I *have seen babies born naturally by women about to be subjected to either Cesarian section or symphysiotomy.* Such babies are, of course, small. I recall one case of face presentation which was born through a pelvis whose diameter would have justified this form of operating with a large baby. On the other hand, we have met many cases where pelvic estimations would make us apprehensive; and yet, by measures to be explained below, we deliberately allow the woman to go to term, and rarely has temporizing been ill advised.

What, then, is our indication for the induction of premature labors in these cases? Are we to be hampered by adhering to the old-fashioned tables found in nearly all our text-books, which tell us in a dictatorial fashion that when the pelvis is contracted so and so much, induce labor at the twentieth, thirty-sixth or thirty-eighth week? Are we to be so blindly scientific, and to lose that

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which we all ought to possess, namely, common sense? Is the book-worm scientist better off if he tells a young mother that, because she has a pelvic contraction to 10 cm., her labors must be induced at the thirty-second week? Possibly, but I doubt it. But suppose this young mother goes to another less brilliant practitioner. He laughs it off and tells her, in his inexperience, she is all right—and she is all right, for she goes to term and is delivered naturally of a small baby. Does the young mother know the small baby was her good fortune? She wanted her baby naturally; she got it. The scientific accoucheur got what? The black eye. And the pseudo-one obtained the reputation. Except in absolute pelvic contractions, we never elect the induction of premature labors until the time comes for its performance, and that time arrives when we cannot get the head to engage by suprapubic pressure. Our mode of procedure is as follows: Every woman at her first visit is subjected to a thorough pelvimetric examination, not that we are absolute believers in the pelvimeter, but because this instrument gives us a clew to pelvic distortions and contractions. When nothing suspicious is found, the probability is that the labor will be normal, providing the fetus is not too large or malposed; and yet, to avoid this, the woman is subjected, from the eighth month, to the same manipulation as one with a small pelvis, in whom the examinations commence at the seventh month. From this time on, once in two weeks, the gravid woman is examined in the bed. With well-flexed legs, the bladder and rectum being empty, one or two fingers of one hand are introduced into the vagina, while the disengaged hand grasps the head which lies in or upon the brim. By firmly pressing it into the pelvis in the line of the axis of the superior strait, downward and backward, the head is made to enter the pelvis. When this is found just possible, then the head is certainly not capable of entering that pelvis at a later time; or, if we find the head and pelvis fit snugly, the same indication holds good, and that is the time to induce labor. But if, in spite of even a considerable pelvic contraction, we are able by our suprapubic pressure to get the head to engage up to the end of a normal uterogestation, we find no indication for interference. For we are of the belief that a head that will engage at the brim will readily pass through the pelvis, for funnel-shaped pelves are so extremely rare as hardly to be considered.

We have attempted in this paper to make ourselves clear as to the following points: (1) That the term pelvic contraction is only a relative condition; and in but a very few cases does the bony pelvis afford an absolute indication and that in cases only where neither a living nor a dead child can be delivered by the natural passages. (2) We do not measure a pelvis by inches, centimeters or millimeters. We estimate its size and test its capacity for the reception of the head which must pass through it. (3) Small and even fair-sized fetuses have been delivered through pelves whose diameters were far from normal and in which the possibility of major forms of operating were to be anticipated; and in some major operative interference had already been in active process. (4) Women with apparently normal pelves in labors with large children very frequently give us the picture of a pelvis relatively contracted, and as such would warrant operations of a more difficult type than those in whom the pelvis shows a diminution in all its diameters. (5) We advise against the election of any form of operating months before, since the fetal head must always remain the sole doubtful element. (6) When once we fail to get the head to engage, it is proof positive that the pelvis is too small for the head, or the head too large, and when this condition obtains, the time to interfere is at hand. (7) We advocate the systematic use of the pelvimeter for purposes of comparison only. We deprecate the absolute value of the instrument as one of precision, and never pin our faith as to results which it gives in determining when or when not to induce labor when there is disproportion between maternal pelvis and the fetal head.

947 Madison Avenue.

WHEN IS IT PROPER TO INTERFERE IN APPARENTLY DIFFICULT OR DELAYED CASES OF LABOR, ESPECIALLY IN PRIMIPARAE.

BY MALCOLM McLEAN, M.D.,
OF NEW YORK.

THE prevention of evil is generally more satisfactory than striving to overcome its deplorable consequences. And in medicine it is the ideal which we should keep before us. In no branch of medicine, perhaps, have we more frequent opportunities for exercising our skill in the prevention of unfortunate conditions than in obstetrics. The above subject of discussion illustrates forcibly the importance of a careful consideration of the subject from different standpoints.

The process of parturition is ever with us; and, although so-called civilization has succeeded in part in modifying the laws of maternity to a considerable degree, still maternity is an essential factor in the growth and maintenance of the great human family. It is not—or ought not to be—a pathological process, but a physiological one. When disease interrupts or disturbs it, when mechanical difficulties prevent or obstruct it; when injury to mother or child results from its performance, it becomes a pathological one. When a healthy living child is born, leaving a mother with uninjured tissues to complete later processes of involution according to Nature's plans, we have the picture of a physiological parturition, which should be the model up to which we would endeavor to bring our obstetrical work.

Much has been well said and written concerning the various accidental or incidental causes of departure from the normal type; and we cannot pay too much respect to the important teachings

so clearly laid down. It has occurred to the reader that he can possibly contribute, if not a new thought, at least a new emphasis to a thought in offering a few words as to the *time* which should be allowed to elapse before we, as obstetric attendants, may with propriety interfere in assisting the parturient act. And, in order not to waste valuable time by repetition of directions suggested by others, as in case of disease, deformity, malposition and the like, it is intended to confine these very meager suggestions chiefly, if not entirely, to one source of untoward consequences, occurring in primiparæ in particular.

A reasonably careful consideration of the injuries inflicted in childbirth will convince one at once that by far the saddest and most serious are inflicted upon the mother in childbed for the first time. Thousands of otherwise healthy, robust and happy young women are annually plunged into the miseries of invalidism, and many are sent to an untimely grave by this function—the highest of her nature—one which, we must admit, should be classed among the functions which we recognize as physiological. The frequency of this awful change, which so suddenly transforms a happy life, is itself sufficient to demand our earnest observation and study of the facts. If it be true, as we have premised, that this sudden transition from health to disease, from happiness to misery, from life to death, comes so frequently and particularly to primiparæ, then it points certainly to a fact—there must be an element of danger in the primipara, which is frequently absent in the multipara; and of this we should take careful heed.

The fact that malpresentations and malpositions of the child, that diseases and deformities of the mother may obtain in the case of the multipara, as in the primipara, does not in any way detract from the force of the proposition before us, namely, that a woman bearing her first child is, for reasons peculiar to her class, particularly liable to certain difficulties and dangers, which seldom menace the woman who has before gone through the normal stages of labor.

In order to keep this argument within the briefest possible lines, consistent with intelligibility and scientific value, let us note that, inasmuch as there is practically no difference between the first child and the third, or fifth, the difference must exist in the mother herself. And, as the forces are about the same in the one class as in the other, it must have to do with the passage through which in each instance the child has to travel.

Having thus sifted the matter down to this point, we may readily throw out of consideration the parts which remain practically immutable in each, multipara and primipara, the bony canal of the pelvis, since this is no more a factor in the one class than in the other. We have, therefore, the soft structures of the mother alone to consider.

What is the difference between the tissues of the young mother, with her first child in transit, and those of her who has already experienced the function of childbearing? Simply that in the primiparæ that peculiar, physiological softening down and relaxation of the soft parts, which should precede the passage of the child, goes on generally very slowly, occupying many more hours in its accomplishment than in the case of the multipara. Hence, if this metamorphosis, or physiological change, be not permitted to reach its proper accomplishment, and surgical interference be offered before the tissues shall have made the necessary change, then, injury is bound to follow with all its direful consequences.

It is to this oft-repeated error of truly "meddlesome midwifery" that the reader desires to point with distinctness and emphasis. The question of long-continued pressure, with its dangers, must not cloud the judgment. We all know, or ought to know, the indications to assist an arrested head which is threatening the vitality of the maternal tissues. But too many of us are apt to forget that there is another extreme to which we should not go, if we would let Nature do her normal work with our assistance. We have seen obstetricians smile incredulously at the importance given to the changes in maternal tissues above alluded to; and we have known them to explain the tardiness and difficulty of the case by assuming and asserting the existence of "slight pelvic contraction," etc. But when a second confinement in the same woman was experienced, we have noted that the "pelvic contraction" was not involving the case.

We believe that obstetricians should remember and that patients should be taught to understand that there is something more in the complex process of childbirth than the mere change of location of the child from the womb within to the world without. There is a clearly-marked process of preparation, through the circulatory forces in the tissues involved, which causes relaxation and stretching of muscular expansions and absolute softening of mucous and other structures, thereby fitting them essentially for the extraordinary distention to which they are to be subjected. If, before such changes have taken place, operative interference be precipitated, the structures are liable to extensive and dangerous lesions with all the ills attending such accidents. It is pretty desirable, then, to take careful account of all the conditions obtaining in a given case before we decide to intervene with surgical assistance. If the presenting part be high up and movable, the pelvic measurements within normal limits, the soft parts unrelaxed, not edematous or swollen, the case may be and should be allowed to proceed without interference. When the forces are apparently normal, the presenting part arrested at any given point, say, for over half an hour, or, if the soft parts of the mother, having once been relaxed, thoroughly moistened with mucus, are becoming hot, edematous and discolored, the indications are clear for early and efficient assistance. When these indications appear there should be no delay.

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DISCUSSION ON SYMPOSIUM.

Comparative Prognosis.—Dr. E. A. Tucker opened the discussion. He said that the prognosis of what will happen in a second labor from the course of the first labor is by no means absolute. The first labor gives valuable hints, but not positive indications as to the conditions that will obtain in succeeding labors. Experienced obstetricians know well that labors in the same woman may be very different, although the child and the presentation may not differ from those of preceding labors. The nervous condition of the woman, her general health, her muscular tone—in a word, her constitutional condition has a great deal of influence on the character of a particular childbirth. This makes the value of pelvimetry very relative. Medical literature is full of laudation for the preliminary information that may be gained by pelvic measurements. Much of this except in extreme cases is a delusion. The text-books have given entirely too much weight to this aspect of advance in obstetrics. A good-sized pelvis and a not abnormally large child may yet give rise to difficulties in a labor which will be extremely annoying and require most skilful interference. The induction of labor, especially in the better classes, is an expedient that will surely find more and more favor with obstetricians as time goes on. There is a slight increase of infant mortality, due to it, but this is not enough to dissuade from the employment of a method which often saves maternal life and always lessens maternal danger. The time when interference to produce labor is advisable is a most difficult problem to decide. Of late we have learned that we can by combined manipulations decide whether the head seems growing too large for engagement at the superior strait. The employment of some such method will be undoubtedly the duty of the obstetrician in the near future.

It is the amount of urea that a woman is passing and not the amount of albumin that constitute the danger-signal for the development of eclampsia. In every suspicious case, that is, in every pregnant woman in whom there is some headache and restlessness for which no good reason can be found, and especially where edema or eye-symptoms develop, a careful estimation of the urea that is being excreted in the urine should be made. This is the imperative duty of the obstetrician. For the ordinary healthy woman without these symptoms, this careful investigation of the urine is not needed. But the slightest suspicion should be sufficient to ask for a sample of the urine and not be satisfied merely with finding out whether or not it contains albumin. The presence or absence of albumin may under circumstances be a very fallacious criterion.

Walking During Pregnancy.—Dr. Tucker recommends pregnant patients to walk a good deal during the latter months of their pregnancy. He considers this the very best form of exercise for them and one that is well calculated to favor the engagement of the fetal head. The walking should be increased more and more toward the end of the pregnancy. If at the end of eight-and-a-half months the head is not engaged the daily walk should be increased one-half mile each day, until the patient is walking at least six miles. Another exercise that is of great service is for the woman to lie in bed and lift herself up to a sitting position without support. This brings into play her abdominal muscles. It increases their functional capacity, makes them of more service during the actual labor itself and presses the head well down into the pelvis before labor begins. The old adage, "let Nature take her course," is a very good one under proper circumstances, but it has killed many an obstetrical patient. There are two classes of physicians who make mistakes in the treatment of obstetric cases. They are the extremists, the non-interferers who wait too long and the meddlers who are in a hurry to help Nature along. Both of them entail unnecessary danger on their patients.

Pelvimetry.—Dr. Egbert H. Grandin said that he is a thorough believer in pelvimetry. It would be better for patients if there were more of it. The result of an obstetric case, however, is never a question of millimeters, nor of quarter- or half-inches, but short diameters discovered by the pelvimeter arouse suspicion and so lead to the taking of precautions which save annoying delay and the development of serious conditions. A woman with an average normal pelvis may yet have considerable difficulty in labor. She will have much more difficulty in one labor than in another, depending on the relation of the child to the pelvic canal and on the strength of the expulsory forces. Besides pelvimetry of late years, we have learned that we can find out whether the fetal part that presents will engage or not. If the presenting part will engage under suprapubic pressure, then the woman will deliver herself without difficulty, as a rule, or at least without insuperable difficulty. The difficulties encountered from a narrow outlet in a funnel-shaped pelvis are so rare that they may practically be neglected. If, however, the presenting part cannot be made to engage, it is an indication that active interference will be necessary. For this the induction of premature labor, when not too soon before the expected normal birth, is a very useful procedure. Dr. Grandin is sorry that he cannot agree with Dr. Ayers that the introduction of a sterile bougie is an easy and effective way of inducing labor. Days and weeks even are needed sometimes before pains are initiated by this method. Besides, it involves imminent risk of the rupture of the membranes and the loss of the waters at the very beginning. This would completely spoil the natural method of dilatation for labor. Barnes' bags are also unreliable. The best method in Dr. Grandin's experience has been a preliminary tamponade of the cervical canal until the lower segment of the uterus becomes soft; then, manual dilatation with extraction ac-

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companied by version, if necessary. Dr. Grandin has used this method in a number of cases now and has been very well satisfied with it. It causes no annoying delays for the patient or the physician and is less liable to cause complications, infective or otherwise, than any other method advised.

Toxemia of Pregnancy.—Dr. Grandin said that this subject is undoubtedly very poorly treated in the text-books on obstetrics. The older text-books advised a perfunctory examination of the urine for albumin as the important point. There are even some of the modern obstetrical manuals which give only the same advice. This doctrine should be relegated to the limbo of worn-out obstetrical traditions. Dr. Grandin has seen fifty per cent. by bulk of albumin in the urine and absolutely no trouble for the pregnant woman. On the other hand, he has seen not a trace of albumin present in cases in which uremia in its worst form developed. It often came on suddenly and was followed by coma and death before measures could be taken for its relief. Opium and pilocarpin and venesection have each had their day in the treatment of this toxemia. None of them has accomplished any good. Veratrum viride, employed up to the stage when the pulse dropped to fifty or sixty, was also ineffectual in preventing a fatal termination. The rule should be not to wait for cephalalgia, or such severe eye-symptoms as diplopia, but as soon as milder symptoms develop and persist and the excretion in urine is very much less than it should be and ordinary treatment fails to relieve these conditions, then the uterus should be emptied. After this the colon should be irrigated, venesection should be employed and nitroglycerin administered, if it seems indicated. When this is borne in mind and the old traditions of useless medication for the condition are forgotten, we shall have fewer deaths from the toxemia of pregnancy.

Dr. Barrett said that it is not the amount of albumin in the urine, but the deficiency of urea which causes toxemia in the pregnant woman. He has seen large amounts of albumin, yet the patient went on to safe delivery at term. On the other hand, absence of albumin gives no assurance of safety from toxemia. True contraction of the pelvis is rare. Very often in difficult labors where we believe that we have to do with a contraction of the bony pelvis, it is really the soft tissues which interfere with the normal progress of delivery. It is evident, then, that pelvimetry has only a relative value. It is a little like measuring the outside of a house in order to find out whether a man could pass through his bedroom-door. The future will surely demonstrate that the soft tissues have most to do with the interference with labor. The practical rule for the obstetrician is to wait as long as labor progresses, no matter how slowly it may be progressing. To interfere before progress stops is practically always unjustifiable.

Dr. Francis Stewart said that during the last months of pregnancy the urine of every patient should be examined carefully. The pelvimeter is fallacious and a practised sense of touch and an experienced judgment as to the relative sizes of fetus and pelvis are much more important and much better guides. Walking cannot be too much insisted on for the pregnant woman. During the latter months, especially when the disinclination to walk is very strong on the part of most women, the taking of long daily walks must be insisted on.

Dr. Ayers said that there must be some restriction as to the amount of walking in certain cases. Where the amount of urea excreted is a little lower than normal there is a narrow margin for the excretion of metabolic products. In these cases any excess in exercise might easily precipitate a serious uremic condition.

Restriction of Diet.—Dr. Marx said that in stout women, who are liable to have fat babies, the restriction of starches and sweets has always seemed to him a very good procedure. They should be advised to take frequent acidulated drinks and to eat plentifully of fruit. Not satisfied with this, some years ago in two cases in which he feared trouble because of overfat babies, he advised the use of thyroid gland. It was used very sparingly, beginning with a quarter of a grain three times a day. At no time did either of the patients take more than a couple of grains three times a day. Both of them complained that they felt life much less vigorously than before. And he feared that a continuation of the treatment might prove serious to the children. It was stopped. It is sad to think how often uremia occurs in physicians' wives. Too often physicians do not realize that albumin is of no importance and that it is the diminution of urea that causes the toxemia.

MEDICAL PROGRESS.

Scarlatina Antitoxin.—Having reported the discovery of the germ, the diplococcus scarlatinæ, and believing it to be the specific cause of scarlet fever, its presence being easily demonstrated in every case of the disease, W. J. Class (*Phila. Med. Jour.*, June 23, 1900) has made some experiments in an endeavor to find an antitoxin. It was difficult to get a culture which could be used as a standard, because of the fact that the germ varies so much in its virulency. A pure bouillon culture of the germ was finally obtained and filtered through a porcelain filter. A small injection of this killed mice within from twelve to thirty-six hours. A chemical examination of this toxin was not made and, therefore, its nature is not known. As it was known that swine were susceptible to the germ, the writer used a female, weighing about twenty-five pounds, in an endeavor to render it immune by administering successively-increased doses of the toxin. At intervals of about sixteen to eighteen days four injections of respectively 1 cc., 2 cc., 3 cc., and 5 cc. of this filtered culture were given to the animal.

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The reaction following the injections diminished after the first two and was least after the last and largest, that of 5 cc. of the filtered culture, at which time the writer considered the animal to be relatively immune. The animal was then bled and the serum obtained from which some effect might possibly be expected. Mice were found too susceptible to the germ and too small, and white rats have a natural immunity, so guinea-pigs were selected for the experiments. A culture was now obtained of which 0.1 cc. in 1 cc. of water proved fatal to a guinea-pig if injected into the abdominal cavity. Four sets of experiments were made, two guinea-pigs being used for each experiment, one animal receiving an injection of the germ alone, while the other received the germ plus the serum. In Experiment 1 the guinea-pig, which received an injection of 0.1 cc. of the culture dissolved in 1 cc. of distilled water, quickly sickened and died. The other guinea-pig received a similar injection of the same strength and size, but it was preceded by a subcutaneous injection of 1 cc. of the serum. There was no reaction in this second animal, which has since remained well. In the organs of the guinea-pig which died the Diplococcus scarlatinæ was found. Experiment 2 (similar to Experiment 1) presented the same results. In Experiment 3 the animals were inoculated with a culture obtained from the liver of the guinea-pig which died in Experiment 1. The unprotected animal died within fifteen hours. The other animal received first an injection of .5 cc. of the serum, but it sickened and died within thirty-six hours. This culture was, however, more virulent and the dose of the serum smaller. In Experiment 4 the animals were treated in the same way as in Experiment 1 and with the same results, *i. e.*, the animal which received the serum lived, the other died. In all the animals which died the Diplococcus scarlatinæ was found in their livers, kidneys, spleens and heart's blood. The writer does not wish to claim that he has been able to produce an antitoxin that will do for scarlet fever what diphtheria antitoxin has done for diphtheria. He simply states the facts as he found them in his few experiments. He still believes that the Diplococcus scarlatinæ is the specific cause of the disease, and feels sure that others will arrive at the same conclusion if they will give the matter an unprejudiced investigation.

A Case of Pernicious Anemia with Yellow Bone-Marrow.—In most cases of pernicious anemia the yellow marrow of the diaphyses is converted into red. There is, however, another, the aplastic type, which differs from the first-mentioned, the metaplastic, in the entire absence of regenerative power on the part of the hematopoietic tissues, and thus no red marrow in the long bones forms. C. S. Engel (*Zeitschrft. f. klin. Med.*, Bd. 40, Hft. 1 and 2) relates a case with the following blood-analysis: Red cells, 2,115,000; hemaglobin, 18 per cent.; slight poikilocytosis; no micro- or macrocytes; no nucleated red cells; leucocytes much diminished; no eosinophiles; neutrophiles, 7 per cent.; lymphocytes, 90 per cent.; no myelocytes and no polychromatophilia. In the entire absence of marrow-elements the blood lacked the pathognomonic cells of metaplastic pernicious anemia. The author discusses the question as to whether his case can be included among the aplastic type and whether it is possible to ascertain from the condition of the blood the state of the blood-forming organs. Normally the marrow is the most important source of both red and white cells, the spleen and lymph-nodes being of importance only in relation to lymphocytes. In case the marrow has lost its function, the nucleated cells from which the normal erythrocytes develop will disappear, the erythrocytes themselves will diminish, neutrophile leucocytes will become scant, while lymphocytes will be present in abundance, since their source of origin is intact. The post-mortem examination of the author's case showed the anticipated absence of red marrow and many non-motile bacteria, the character of which was not determined, in the marrow of the ribs.

Prolonged Sleep.—A unique case of prolonged sleep of seven months' duration in a girl eighteen years of age, suffering from sarcoma of the pituitary body, came under the care of F. Soca (*Gaz. hebd. de med. et de chirurg.*, May 31, 1900). There was at first general asthenia with headache, optic atrophy, especially on the left side, with dilated pupils not reacting to light, but no ocular palsies. Soon the sleep began, from which the patient only awoke to take food. Toward the close of the disease, memory and attention were much affected while the patient was conscious; speech was incomprehensible, the reflexes were exaggerated and there was some muscular atrophy. Death resulted from bronchopneumonia. A tumor the size of a mandarin, reaching into the third ventricle, was disclosed on autopsy.

Chronic Purulent Otorrhea.—A suppuration of the middle ear not kept up by necrosis, polyps or a foreign body, is usually chronic because (1) the tissues are lowered in vitality, (2) the septic material is active, and (3) drainage is poor. The necessity of pursuing active treatment in these cases is urged by C. L. Filt in the *New York Medical Journal* (June 23, 1900). The drainage can seldom be improved, but the tissues may be stimulated and the virulence of the germs destroyed. When the discharge is profuse the ear should be syringed out two or three times a day with a very warm solution of two-per-cent. carbolic acid or other antiseptic. Once a day after irrigation, the canal should be mopped out with absorbent cotten and an antiseptic dusting powder be blown in. Too much powder should not be used to block up the canal. This "dry treatment" will cure a case in one-sixth the time required by solutions. The best powders to be used are the iodine bearing ones, such as iodoform, iodol, aristol or iodomuth. When the dis-

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charge is slight irrigations need not be used, but the insufflations should be employed once a day.

The Value of the Tuberculin Test.—The value of the tuberculin test in the early diagnosis of cases of tuberculosis is discussed by J. M. Anders in the *New York Medical Journal* (June 23, 1900). It does not depend on its greater reliability as compared with other methods, but rather upon the fact that it permits of the recognition of the disease in its latent as well as in its incipient stages. M. Beck reports that out of 2508 injections made, tuberculosis was first detected in 1154 cases by means of the reaction obtained. It is claimed that a well-defined reaction occurs in eight-per-cent. of apparently healthy individuals, yet some of these may be latent or obscure cases. Failure of reaction in dubious cases is often due to the fact that too small a dose has been given. Cases of bone and joint tuberculosis require larger quantities than any other form of the complaint. It is believed that medium-sized initial doses (from two to five milligrams) should be employed since this usually obviates the necessity of repeated injections. The results of a large number of investigators show that the test is sufficiently accurate for practical purposes. It has been claimed by Virchow that tuberculin caused a maceration and softening of the tubercles which might result in the liberation of the bacilli from tubercles in the process of recovery. More subsequent clinical investigations have led nearly all competent observers to emphasize its superior value as an aid to diagnosis and to confirm the claim of apparent harmlessness. Since tuberculin does not aid the healing of diseased areas it should not be used when the diagnosis is clear. Furthermore, the more extensive the lesion, the larger the dose required to obtain a reaction, and the greater are the ensuing local disturbances.

Ceruminous Impactions in External Auditory Canal.—To the general practitioner a few very useful hints are given by S. Kohn in the *Medical Record* (June 23, 1900) in regard to the impactions which occur in the external ear. About fifteen per cent. of all cases of ear disease are due to this affection. There are three varieties, the classification depending upon the composition of the plugs. The simple ceruminous impactions, sometimes containing a nucleus and consisting also of epithelial cells, hairs and detritus, are the most frequent. A second variety is the epithelial plug, found principally of epithelial scales and is due to a chronic desquamative dermatitis. The third variety is the cholesteatoma of the external canal showing through the speculum as a pearly gray mass. It usually originates in the mastoid cells and by absorption works its way to the canal. It is claimed by some that every case results from an inflammation of some part of the auditory apparatus stimulating the secretion of cerumen. As a rule, after the removal of the plug there is not the complete restoration of hearing that is usually expected, for there is often an old otitis media or disturbance of the function of the membrane or ossicles due to the pressure of the plug. The head-mirror and speculum are all the instruments necessary to make a diagnosis. A patient complaining of deafness coming on suddenly, fulness of ear, dizziness, who hears the tuning-fork applied to the middle of the forehead more markedly on the deaf side than on the normal, has probably an occluding plug. The best method of treatment is the use of large quantities of sterile warm water. The water should be at about 80° F. and unmixed with anything except perhaps bichloride, 1:5000. A large sterilized syringe is used and about a pint of water carefully injected into the ear. If the plug is very hard a saturated solution of bicarbonate of sodium or a two-per-cent. solution of carbonate of potassium in equal parts of glycerin and water may be dropped into the ear three or four times per day. Two days of such treatment are usually sufficient. Cases requiring the curette, forceps and probe had better be left to the specialist.

Appendicular Pleurisy.—The following are the conclusions of M. Dieulafoy (*Bull. de l'Academie de Med., La Revue Méd.*, p. 365) on this subject: This is a distinct disease and, just as hepatic abscess, may follow appendicitis. In the latter, involvement commonly occurs by the portal vein; in the former the avenue is adhesions or lymphatic channels. It occurs only in the ascending type of appendicitis in which the pus gradually works its way up behind the cecum, colon and liver, finally forms a subphrenic abscess with abundant adhesions and encapsulations of the exudate all along this path. Finally perforation of the diaphragm occurs or the lymphatics carry the infection across into the thoracic cavity. The appearance of this complication is six to ten days after the onset of the appendicitis and usually during a period of remission in the symptoms of the primary lesion. With exceedingly rare exceptions it is on the right side, often confused with a hepatophrenic lesion, usually accompanied by active pain in the right hypochondriac region or right chest with fixation, nervous dry cough, and much dyspnea. Sometimes the pleurisy can not be outlined and shows only dry friction sounds, or the pus is deprived of much of its toxic effects, is practically sterile, or the effusion is purely serous and disappears promptly. Oftener the exudate is highly toxic, infective, putrid, gangrenous, very abundant with signs of a full chest, often followed by those of pneumothorax due to the evolution of gases by the gangrene. The prognosis, always serious, rests upon the general condition, the character and rate of the pulse, and the enfeeblement of the patient. In the presence of a right purulent putrid pleurisy a preceding appendicitis should be sought. Early surgical attack upon the pleurisy and the appendicitis is indicated. The patient, already highly toxic, usually dies; hence, the true treatment is prophylactic, in prompt diagnosis and relief of the appendicitis. In this way this and all other complications of appendicitis can be prevented.

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SATURDAY, JUNE 30, 1900.

TETANUS AND ITS TREATMENT.

THE season of the year is again at hand when tetanus in our larger cities takes on somewhat the character of an epidemic. Last year some eighty deaths from the disease were reported in the Eastern States. It seems hopeless to expect any abatement of the yearly fireworks nuisance. Until this is attained the recurring danger from tetanus may be awaited with certainty. It is not the peculiarly-irritating quality of the burns made by the explosives, nor is it the contamination of the fireworks by the tetanus bacillus in packing that causes tetanus to result from these wounds. It is due to the fact that, in the seared and often lacerated wounds made by toy pistols, the tetanus bacillus, so common on our streets in the summer-time, finds beneath the surface of the skin, where it is well protected from all contact with oxygen, a favorable nidus for its anaerobic growth.

The prime indication for treatment is the free admission of air to every part of the wounded tissues. For this reason it is inadvisable to cauterize wounds in which there is fear of tetanus developing. The searing process, by the production of an eschar, effectually occludes the deeper tissues from the pervasive germicidal influence of the oxygen of the air. It is probable that the cauterization produced by the missile itself is an accessory etiologic factor in the original production of tetanus. For reasons similar to those which seem to contraindicate cauterization, strong antiseptics should not be used on a wound that is suspected of being infected with tetanus bacilli. In the spore-stage of the bacillus, which is the form in which it usually occurs in the presence of air, the tetanus bacillus is extremely resistent to the action of chemical germicides. It is futile, therefore, to attempt to destroy entirely the bacilli by such methods. The vital resistance of the tissues is sensibly lowered by their use and the dying tissue serves rather to protect the *bacillus tetanus* from the inhibitory influence of the free oxygen of the air.

The serotherapy of tetanus has not fulfilled its early promise, yet there still remain encouraging features in its use. When symptoms of severe tetanus have developed it is practically agreed that antitetanic serum is not of much service, at least when administered hypodermically. As a distinguished authority has said, the initial symptoms of tetanus, as we see them, do not herald the beginning of the disease, but really the beginning of death from the disease. If possible, treatment should anticipate the manifestation of the nervous symptoms of the disease. For this purpose the injection of antitetanic serum as a prophylactic seems advisable in cases in which there is good reason to fear that infection with tetanus bacilli may have taken place. Tetanus serum is now made of such high antitoxic value that the injection of two or three cc. of serum would be sufficient, in the presence of any suspicious wound, absolutely to guarantee immunity from the disease. The mortality of the disease is so high that prophylactic injection seems justified in all cases in which burns or lacerated wounds occur that have been contaminated by street dirt.

The intracerebral injection of antitetanic serum has not given all the good results that were expected from it. Those who have used this method of treatment most, however, speak very highly of it and will continue its practice in severe cases. Several cases successfully treated by the injection of antitoxic serum through a lumbar puncture have been reported. The serum so injected finds its way into the subarachnoid space and very probably also into the ventricles of the brain quite as effectually as if injected intra-

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cerebrally. Moreover, a certain amount of the toxins of the disease that are known to exist in the cerebrospinal fluid are evacuated. This method of injection after lumbar puncture is far simpler than intracerebral injection. The latter is a major operation; the former can scarcely be dignified longer by the name of operation at all.

Cases of tetanus will unfortunately develop this summer as in other years. For these, early lumbar puncture with injection of 5 to 10 cc. of antitetanic serum should be tried. Where symptoms indicate a very severe type of the disease and of a fulminant character, a preliminary injection of a quantity of normal saline solution a little less than the amount of cerebrospinal fluid evacuated would serve to dilute the toxins of the disease and assist in their removal before they are fixed within the nerve-cells. This washing out of the spinal canal has been done a number of times, although not, we believe, in tetanus.

For suspicious street wounds, the prophylactic injection of tetanus antitoxin seems not only justified, but demanded as a duty by the present conditions of prophylactic therapeutics. Our bacteriologic knowledge of tetanus, its cause and its toxins, is a triumph of scientific medical advance. Unfortunately, all this knowledge has, as yet, brought but a modicum of benefit to clinical medicine. Let us hope, however, that our better realization of the conditions of the disease and the suggestions as to methods of treatment that are now before the profession will complete the successful practical application of the great scientific principles that have been established. The treatment of tetanus will be more fully amplified by Dr. Lambert in our next issue.

ECHOES AND NEWS.

NEW YORK.

Medical School Closed.—At a meeting of the corps of teachers of the New York School of Clinical Medicine, held at the Academy of Medicine, June 21, 1900, it was decided to wind up the affairs of the School and close it permanently. This action was taken in consequence of continuous interference of the lay Board of Trustees in its affairs.

St. John's Guild opened its Seaside Hospital at New Dorp, Staten Island, on June 15th for the reception and care of sick children and their mothers. Patients are being conveyed to the Hospital free of cost by the 10 A.M. and 2.30 P.M. Staten Island ferry, under the care of a nurse and orderly, until the Floating Hospitals are put into commission, which will be the early part of July. All patients are admitted free without regard to creed, color or nationality. Doctors may obtain tickets for distribution among their patients at the office of the Guild, No. 501 Fifth Avenue, upon application.

Contagious Diseases.—For the week ending June 23, 1900: Measles, 304 cases and 14 deaths; diphtheria, 257 cases and 30 deaths; laryngeal diphtheria (croup), 8 cases and 3 deaths; scarlet fever, 107 cases and 8 deaths; smallpox, 4 cases and 1 death; chicken-pox, 19 cases; tuberculosis, 178 cases and 135 deaths; typhoid fever, 18 cases and 9 deaths; cerebrospinal meningitis, 6 deaths; totals, 895 cases and 206 deaths.

To Cleanse Chinese Quarters.—The Board of Estimate has appropriated $20,000 for the Board of Health to use in fumigating the Chinese quarters in Manhattan, Brooklyn, and Coney Island. It is expected that when an attempt is made in Chinatown to carry out the work of fumigation, the scenes enacted in San Francisco will be repeated. The California Chinese appeared panic-stricken while the work was going on.

Broken Neck.—It is evident that all cases of fracture of the cervical vertebræ cannot expect the fortunate result that attended the recent successful case of Walter Duryea at Roosevelt Hospital. An operation was performed June 22 at Fordham Hospital upon a man who had fallen from a cherry-tree and sustained an injury almost identical with that of Duryea. The patient died a few minutes after recovering from the anesthetic.

Unreported Consumption Cases.—At a meeting of the New York City Health Board on June 25th, it was declared that there were 40,000 cases of consumption in this city during the past year, of which physicians reported but 9,000; the hospitals reported all such cases promptly, but "physicians were backward in reporting private cases." It is thought that a great many cases were kept secret in order to deceive life-insurance companies. Bright's diseases, it was declared, is ascribed to a great many cases in which tuberculosis is the primary cause. President Murphy directed that if physicians would furnish to the commissioners information to the effect that consumption exists in any given case, such information would be regarded as confidential.

Charges Preferred Against Dr. Jenkins.—Charges have been recently forwarded to Mayor Van Wyck against Dr. William T. Jenkins, Health Commissioner and brother-in-law of Richard Croker. The charges are sworn to by Dr. Willard P. Worster, of No. 203 West Eighty-first street, who has been engaged in practice in this city for the past thirty-six years. The charges allege: "That for the past three years the medical care of sailors has been diverted by William T. Jenkins, one of the Health Commissioners of the City of New York, from its legiti-

mate channels and so as to prevent healthy or honest competition.

"That, as your petitioner is informed and verily believes, the said William T. Jenkins caused to be incorporated a society in the city of New York for his benefit known as the Merchant Marine Hospital Service (Foreign) and Dispensary. That the business of said alleged hospital service and dispensary is alleged to be conducted at the Cheseborough Building, No. 17 State street, New York City. That said William T. Jenkins is the managing director; that one James Jenkins, his brother, is a clerk therein, but not a physician, who wears a badge marked, 'Health Department, City of New York,' and one J. S. Richardson is a doctor employed by said Jenkins and said society to visit ships and examine crews. That there is no hospital connected with the rooms or hospital service and no dispensary.

"That your petitioner is informed and believes that said business has been secured and is retained by said William T. Jenkins by representations made by him to ship-owners abroad and ship-owners' agents in this city; that he can and will favor their ships and crews by and through his office as Health Commissioner at this port."

PHILADELPHIA.

Public Baths.—The nine free public bath-houses were opened Monday, June 25th. Last year they were patronized by 3,500,000 bathers.

Chief of Charities.—Dr. John B. Shoemaker, lately appointed a member of the Board of Charities and Corrections, has been made president of that department.

Sterilized Milk and Ice Society.—This society has lately begun a new season's work. It supplies pure milk from tested herds at a very low rate and sterilized milk is retailed in one-cent bottles, this being sufficient for the feeding of one infant.

City's Work for Consumptives.—The eighth annual report of Rush Hospital shows the admission of 102 patients during the year. The Free Hospital has as yet no building, but has cared for 124 patients in other hospitals.

Health Report.—Deaths in the city for the week ending June 23d were 380, a decrease of 75 from the previous week and an increase of 1 over the corresponding week of last year. Contagious diseases: Diphtheria, 85 cases, 20 deaths; scarlet fever, 54 cases, 3 deaths; typhoid fever, 40 cases, 5 deaths.

Forests for Consumptives.—The State Forestry Commission is to purchase 40,000 acres of land at the headwaters of each of the three principal rivers of the State in order to rear forests. This is looking forward to the future State care of consumptives and also for outdoor recreation for other invalids.

CHICAGO.

Appointment of Dr. Nicholas Senn.—Dr. Senn has been appointed Chief of the Medical Staff of the Democratic National Convention, to be held in Kansas City July 4th.

Rush Faculty Dinner.—A dinner was given at the Chicago Club on the evening of June 30th by the Rush Medical College Facuty in honor of Dr. W. W. Keen of Philadephia, at which the majority of the members were present.

Rush Medical College Commencement.—Two hundred and eight medical students were given diplomas certifying that they are Doctors of Medicine by Rush Medical College, June 21st. The commencement exercises were held at the Studebaker Theater. The Doctorate Address was delivered by Dr. W. W. Keen of Philadelphia.

Mary Thompson Hospital.—This hospital is the defendant in a suit begun in the Circuit Court by Mrs. Anna Wolff, who seeks to recover damages in the sum of $5000. The plaintiff alleges that she was a patient at the institution two years ago, and that while there she had an operation performed from the ill-effects of which she has never recovered.

Chicago Medical Society.—The annual meeting was held June 20th. The Treasurer's Report showed 944 paid-up members. Hereafter the clinical meetings of the Society will be held alternately on the North, South, and West sides of the city. The Treasurer's Report showed a balance in the Treasury of $3,004.40. The following officers were elected for the ensuing year: President, Dr. James H. Stowell; first vice-president, Dr. Alexander Hugh Ferguson; second vice-president, Dr. Adolph Gehrmann; secretary, Dr. S. C. Plummer, Jr.; treasurer, Dr. Robert H. Harvey; trustees, Dr. William H. Wilder for the Ophthalmological Society; Dr. John Ridlon for the Orthopedic Society, and Dr. E. J. Doering for the Medico-Legal Society. Dr. Maurice H. Richardson of Boston delivered an address (by invitation) on "The Surgery of Gall-Stones." A vote of thanks was extended to Dr. Richardson for his interesting address.

GENERAL.

Red Cross Japanese Ship.—Japan has fitted up a hospital ship and sent her to Taku with arrangements to receive and treat the wounded of all the Powers.

Telephone Hygiene.—In Vienna telephone booths are furnished with napkins, bearing the inscription, "Wipe, if you please." The napkins are changed frequently, and this undoubtedly serves to keep the mouthpieces of the transmitters in good sanitary condition.

The Eclectic Medical Association.—This Association closed its thirtieth annual session at At-

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lantic City June 21st. Chattanooga, Tenn., was selected as the next place of meeting. The following officers were elected for the ensuing year: President, E. Lee Stanley, St. Louis; recording secretary, Dr. Pitt Edwin Howes, Boston; corresponding secretary, Dr. N. A. Graves, Chicago; treasurer, Dr. W. T. Gemmill, Forrest, Ohio.

The Plague.—A fresh case of bubonic plague was reported June 23d at Oporto, Portugal. It will be recalled that a decree was issued February 7th last announcing that the bubonic plague had disappeared from Oporto, and that the quarantine of that port had been raised. No new cases have been discovered at San Francisco and it is generall believed that the stringent measures adopted have eradicated the disease. We know, however, as the *Journal of the American Medical Association,* says, that the plague often occurs sporadically before becoming epidemic—a fact that does not increase satisfaction with the present condition of affairs. It would be most unfortunate if, through misguided public sentiment or legal interference with quarantine, the pest should gain a foothold on the Pacific coast. Twenty-five new cases of bubonic plague were officially reported at Rio Janeiro, June 26th. There have been twelve deaths from the disease during the week.

Yellow Fever in Cuba.—The outbreak of yellow fever in localities hitherto exempt from the disease is ascribed to the recent heavy rains. Major Frank H. Edmunds of the First Infantry, who died at Quemados, Cuba, on Monday of yellow fever, at the age of fifty-one years, was stationed there as acting inspector-general on the staff of Gen. Lee, commanding the Department of Havana in Pinar del Rio. He was a graduate of West Point in the class of 1871, and was a native of Michigan, although appointed from Dakota. At Quemados two new cases are reported among the members of Gen. Lee's staff—Major Kean, Chief Surgeon, and Capt. Hepburn, Signal Officer. Capt. Hepburn's case is serious, but Major Kean's is light. Mrs. Edmunds, wife of the late Major Frank H. Edmunds, is convalescent. She has not yet been told of her husband's death. Havana has developed only three cases thus far, in spite of the gloomy predictions of what would occur as soon as the rainy season, from which the city did not suffer last year, was really at hand. The situation at Santa Clara City has materially improved since the troops were ordered out of the city limits. Gen. Lee's headquarters at Quemados will probably be moved to the camp in the neighborhood of Fort Columbia.

Investigation of Malaria.—It is stated in the *British Medical Journal* that next autumn with the cooperation of the Mediterranean, Adriatic, and Sicilian railway companies, experiments will be made on a large scale as to the prevention of malarial fever among railway servants in malarious districts in Italy. At all the stations which bear the worst name in regard to this scourge the huts in which the men and the families live will be protected with mosquito netting. Similar investigations will be pursued in Sicily and Sardinia. By this combination of research it is hoped to gain an accurate idea of the regional distribution and local characteristics of malaria in Italy, and to find means of prevention adapted to the condition of the different parts of the country. Dr. Koch, in the *Deutsche medicinische Wochenschrift* of Berlin, reporting from German New Guinea, under date of April 28, regarding his investigations respecting the origin and cure of malaria, says: "We have already established the fact beyond doubt that by prophylactic and subsequent treatment with quinine even the worst infected districts can be cleared of malarial infection."

Social Features of International Congress.—August 2d: An opening evening reception will be given in the name of the Government by the President of the Council.—August 3d: Evening reception by the President of the Congress.—August 5th: Evening reception to members of the Congress at the Palace of the Elysée by President Loubet.—August 8th: Evening reception by the Bureau and Committee of Arrangements at the Palace of the Senate and the Luxembourg Garden. A fête will be given by the Municipal Council of Paris, also several under the auspices of the various Sections.—The ladies accompanying members of the Congress will be invited to all of these and a committee of ladies has been organized to receive and entertain them.

Homeopathists Meet.—The fifty-sixth annual session of the American Institute of Homeopathy began its work at Washington on June 19th and ended on June 23d. The following officers were elected for the ensuing year: Dr. W. W. Van Baum of Philadelphia, president; Dr. A. B. Norton of New York, Dr. George Royal of Des Moines, and Dr. Flora N. Ward of San Francisco, vice-presidents; Dr. Eugene H. Porter of New York, general secretary; Dr. Wilson A. Smith of Chicago, recording secretary; Dr. T. Franklin Smith of New York, treasurer, and Dr. Henry C. Aldrich of Minneapolis, registrar. A resolution was adopted on June 22d declaring that a system of interstate comity was necessary to conserve the best interest of the medical profession and protect the community against imposition, and a committee was appointed to open communication with the National Medical Association and the Eclectic Society for the purpose of bringing about cooperation in an effort to secure such national or interstate legislation. The following was adopted as the definition of a homeopathic physician: "A homeopathic physician is one who adds to his general knowledge of medicine a special knowledge of homeopathic therapeutics and observes the law of similia. All that pertains to medicine is his, by tradition, by inheritance, and by right."A statue of Hahnemann, which has been erected on the East side

of Scott Circle in Washington was dedicated on June 21st.

CORRESPONDENCE.

OUR LONDON LETTER.

[From Our Special Correspondent.]

LONDON, June 21, 1900.

THE MARRIAGE OF FIRST COUSINS—ARMY SURGEONS AND THE VICTORIA CROSS—THE GENERAL MEDICAL COUNCIL—RAISING THE STANDARD OF PRELIMINARY EDUCATION FOR ADMISSION TO THE PROFESSION—THE POLYCLINIC DINNER—ANNUAL MEETING OF THE BRITISH DENTAL ASSOCIATION—ABSENCE OF PROVISION FOR THE CARE OF THE TEETH OF POOR CHILDREN—THE CENSUS—FRACTURE OF THE SKULL MISTAKEN FOR INTOXICATION.

IN the *Polyclinic,* the journal of the Medical Graduates' College, Mr. Jonathan Hutchinson has treated the interesting and practical question of marriage of first cousins in his usual lucid and able manner. He insists that idiot and deaf-and-dumb asylums are not disproportionately peopled by the offspring of consanguineous marriages, and that many isolated communities in which more or less close intermarriage has been practised for centuries are examples of all that could be wished in physical vigor. There is nothing in consanguineous marriage which necessarily leads to deterioration. But, of course, there is in the marriage of first cousins an increased probability that whatever tendencies exist in the family, good or bad, will be transmitted, since both parents possess them. Stock-breeders do not fear to bring together first cousins and from highly incestuous unions obtain the highest class of animals. In-and-in breeding long continued no doubt inperils fecundity and may even induce defective development; but it is only as regards single instances that the question arises in human affairs. The practitioner has not to say what would be the result if first cousins married in successive generations, but only in one. Advice is seldom asked regarding more remote relationship. As regards first cousins the reply should be "There is nothing likely to be prejudicial to offspring in a consanguineous marriage *per se,* but if there be any definite tendency to such diseases as tuberculosis, cancer, or insanity, there is a risk that it may be intensified. On the other hand, if the family has a good life-history there may be greater security in such a marriage than in one with a stranger whose antecedents are less known. However, some reservation must be made as regards certain rare maladies known as "family diseases." Of these retinitis pigmentosa is the most important. Liebreich and others have shown that it probably occurs with undue frequency in the offspring of consanguineous marriages. But in general the risks of inbreeding are simply the known risks of heredity and are in no essential relation with consanguinity.

The recent accession of Surgeon-Major Babtie's name to the list of Victoria Cross holders draws attention to the fact that only about twenty-one of these coveted decorations have been bestowed on living members of the medical staff. When it is remembered that surgeons are frequently in the danger zone and that they have none of the combatants blood-lust excitement and temporary madness, their cool courage should be all the more appreciated. The list includes Surgeon-Major Reynolds who took part in the heroic defence of Rorke's Drift; Surgeon Lieut.-Col. Hartley who rescued a corporal under a fierce fire, carried him to a place of safety, dressed his wounds, and then cooly returned to his ordinary duties; Surgeon-Major Hall who proved his courage on several occasions during the Crimean War and in one instance brought in several wounded men under a hail of bullets. Others are Surgeon-Major Crimmin who in the Burmese campaign in Eastern Herenni divided his attention between attending to the wounded and killing the enemy; Surgeon-Captain Whitchurch who during the sortie from the Chitral Fort in 1895 sought to bring a wounded captain to a place of safety and after three of the dhoolie bearers were killed himself carried the captain some distance.

At the meeting of the General Medical Council Sir John Batty Tuke, Chairman of the Education Committtee, presented a further report by that body on the question of raising the standard of preliminary examination in general education. It was thought impracticable to require all intending medical students to attain the standard of the so-called senior and higher grade examinations. A substantial advance on the present requirements could, however, be made by insisting on improvements on the character and stringency which could be directly influenced by the Council.

The annual dinner of the Medical Graduates' College and Polyclinic, held at the Trocadero Restaurant, was a most successful function. It was not altogether a festive affair, being partly given with the object of raising funds for the institution. Of these it is much in need, for, having no beds and not being a hospital in the ordinary sense, but simply a college for the instruction of qualified medical men where gratuitous consultations are held on suitable and selected cases, it does not appeal to the charitable public in the same manner as a hospital. Lord Strathcona and Mount Royal, who preseided, said that the object of the Polyclinic is to bring together medical graduates to their mutual advantage. Mr. Jonathan Hutchinson remarked that there is no competition between the College and the hospitals. Within the last twenty-five years there had been no increase in the number of beds in the hospitals while the population had increased immensely. The College, instead of being regarded as a rival, should be regarded with favor by the hospitals, for it affords some protection to them against the creation of new hospitals. He hoped that an arrangement may soon

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be made by which students of the Polyclinic will receive instruction in the wards of the hospitals.

The annual meeting of the British Dental Association, which was held at Leeds, proved a great success. About 250 members attended. Mr. Brunton of Leeds, in his presidential address, pointed out that the dental departments of the hospitals fail to furnish all the aid required. Statistics showed that the school children of Leeds have 85 per cent. of their teeth decayed. In the Army and Navy no provision is made for the prevention or cure of dental disease. So much health and happiness depend on sound teeth that the subject ought surely to claim some little attention from the authorities and sympathy from the public. In the public charities of Leeds every part of the human economy except the teeth is cared for. No provision is made for any conservative dental work. Prof. Smithells of the Yorkshire College read a paper on "Flame;" Prof. Goodman on "The Strength of High Pressure Gas Cylinders;" Mr. T. S. Carter on "The Treatment of Fractured Maxilla by Wire Suture Aided by the Electromotor" and Mr. T. E. Constant on "Note upon a Misunderstood Movement of the Temperomandibular Joint."

Arrangements have already been made for the forthcoming census of Great Britain which will be taken in 1901. The first of the army of 50,000 men who will have the task of counting the population have been appointed. These are merely subordinate clerks. Before the time—a year hence—when the Registrar-General's Office will be hard at work arranging and compiling the schedules gathered from every inhabited spot of England and Wales, a vast amount of preliminary work must be done. For the purpose of the census Great Britain is divided into about 640 districts, each under a superintendent registrar. Each district will contain from 2 to 12 subdistricts approximately about 2000 in all and every subdistrict is again divided into enumeration districts numbering about 40,000.

That unfortunate error of diagnosis—mistaking a case of head injury for one of intoxication, seems to recur with remarkable periodicity. The victim was Captain Robinson, a nephew of Lord Rosmead. He was knocked down by an omnibus in the Strand and taken to Charing Cross Hospital, where he was supposed to be merely intoxicated. He was removed to the Bow Street Police Station. When in his cell, seven hours after the accident, the gaoler heard groans and heavy stertorous breathing. He found the prisoner lying face downward on the floor, unconscious and bleeding from the right ear. He was subsequently taken to Kings County Hospital, where he died eleven hours later from a compound fracture of the base of the skull. The coroner's jury censured the Charing Cross authorities for not making an adequate examination. Reports of similar cases occurring in the large cities of America are not uncommon and the mistake cannot be too strenuously deplored.

OUR PARIS LETTER.

[From Our Special Correspondent.]

PARIS, June 18, 1900.

SPECIALTIES AT THE FACULTY OF MEDICINE—THE USE OF CACODYLE—RIVIERA RESORTS FOR CONSUMPTIVES—DEATH OF DR. APOSTOLI—TRANSPORTATION BY RAILWAY OF CASES OF INFECTIOUS DISEASES (GERMANY) — TYPHOID FEVER IN VIENNA—OVERCROWDING OF THE PROFESSION IN FRANCE.

IT is a well-known fact that in the Paris Faculty of Medicine there is a lack of special instruction in such branches as otology, rhinology, laryngology, and disease of the eye. This was recently made the subject of an article by De Lavarenne, the editor of the *Presse Médicale,* in which he complains of the tardiness which is shown in following the example given by the German universities. For instance, Dr. Panas, the Professor of Ophthalmology, was about to take a vacation and no professor *agrégé* on the working staff could be found to replace him. The same condition prevails in the other specialties. A country physician, Dr. Filloux, has just left in his will a provision for a prize to be given to the interne and externe who pass every year the best examinations in otology, and this tends to show that there is a general awakening to the necessity of specialization.

Cacodyle, which has attracted so much attention of late in France as a cure for consumption, is still as much talked about as ever. Introduced by Dr. Armand Gautier, Professor of Chemistry at the Faculty of Medicine, this organic compound of arsenic has been tried by a large number of physicians in the hospitals. Administered by the mouth it seems to be attended with disagreeable eructations, a taste of garlic, and even general discomfort. Used hypodermically in doses of from five to ten centigrams daily, it is free from these results. Dr. Letulle, Professor *agrégé* at the Faculty of Medicine, has tried this preparation in his sanatorium. Over a thousand injections have been made in his service during the last four or five months, and no local irritation has been produced. They are made daily for a week, then stopped for a week. The following mode of preparation is recommended by Dr. Gautier:

℞ Cocodylate of soda, 6 grams, 40 centigrams;
Distilled water, 100 cubic centimeters;
Solution of phenic acid $^1/_{10}$ VI. drops.

This preparation should be boiled, filtered on a sterilized filter, and brought up to 100 cubic centimeters. Each cubic centimeter contains 5 centigrams. The results, according to Dr. Letulle, vary according to the condition of the patient. A great number of advanced cases, suffering from fever, and in a cachectic condition, are not much benefited; but certain forms with excavations, or with softening of the tubercles, are greatly improved. The appetite returns, the fever goes down, the weight increases. As to the blood-corpuscles, Dr. Letulle's investigations

are not as yet sufficiently conclusive.

At the recent Congress on Tuberculosis at Naples a question was discussed by Dr. Hérard de Besse of Beaulieu, which is of interest to American practitioners who intend to send patients to the Riviera. Dr. Hérard spoke rather *pro domo sua,* as he is practising at Beaulieu, and his speech tended to prove that this place was an ideal resort for consumptives, presenting a torpid form without much fever. The mean temperature in winter is 11° C., while that of Naples, Mentone or Cannes is 9° to 10° C., and the climate is tonic. What Dr. Hérard calls the "home-sanatorium" is in vogue at Beaulieu; that is to say, there are small private hotels, in which there may be from 15 to 20 guests and in which the life is much more quiet than in large establishments. Nice, as a place for consumptives, is quite out of the question, as it is exposed to the wind and dust, and the changes of temperature are often extreme. Cannes and Mentone are much better, and the latter offers the additional advantage of being less expensive.

Two weeks ago, in the last days of April, there died in Paris a man, who, without having any official title in France, with the exception of that of doctor, had acquired a world-wide reputation in electrotherapeutics. I am referring to Dr. Apostoli, whose name is well-known on account of his work in the medical treatment of fibromata. Dr. Apostoli's treatment has always been looked upon with disfavor by the greater number of surgeons and it is hardly likely that any man will be found to apply with as much *éclat* the treatment he had instituted for fibroids of the uterus. However, one already receives prospectuses from electrotherapeutists, who declare that their special knowledge of this field qualifies them to undertake such treatment. Of late years, however, Dr. Apostoli had employed static electricity as a means of toning up debilitated organisms, and his praises were sung by patients who had been subjected to his treatment. His success is an example of what follows ready adaptation to the popular idol of the hour of a scientific point of view.

A recent ministerial decision in Germany as to the conveyance of cases of infectious disease is of interest. All patients suffering from smallpox, diphtheria, scarlet fever, cholera, leprosy, must be transported in a special carriage upon payment of the tariff for this mode of transportation. Cases of measles, whooping-cough, or dysentery must hire a special compartment which is shut off from the rest of the train. The transportation of patients suffering from bubonic plague is forbidden. Suspicious cases will be treated according to the terms of the medical certificate. When a patient is suffering from an affection which makes him a source of discomfort to his fellow-passengers, he is obliged to take a special compartment. Such measures, as one can see, are drastic, but will certainly be useful.

Quite a scare has been caused in Vienna by the sudden increase in the number of deaths from typhoid fever. This city has been supposed to be a model one as to its water-supply, but typhoid fever has increased notably since the beginning of the year. From the 18th to the 21st of March there were 26 deaths, while there were only 25 from the 1st of January to the 3d of February. This is quite a difference, and an investigation is being held as to the cause of this sudden increase.

Last autumn Paris was also affected by a similar outbreak, but no cause for it could be demonstrated to the satisfaction of the people who were delegated for this undertaking, though it may be that some of the sources of the water-supply are not quite pure. It is generally in the latter part of summer that a certain amount of Seine water is distributed in the different arrondissements, and from the 1st of July it is prudent to boil the water or else take some of the mild mineral waters such as Evian, Anet, and Bussang.

During the last few weeks one has heard a great many complaints in France as to the increasing number of medical practitioners. Such a complaint would seem to be justified in other countries, but in France statistics show that the number of medical men has increased very little. In 1847 for a population of 35,500,000 inhabitants there were 17,375 doctors, whereas in 1876 there were 14,375 doctors for a population of 36,000,000 inhabitants. The number has increased slightly of late years, since in 1895 there were 15,017 doctors for a population of 38,517,976 inhabitants.

This increase is all at the expense of the cities, where the doctors have more and more a tendency to establish themselves, following out in this particular case the general laws. But it is easy to see how different this is from the proportion observed in England, where there are 35,000 medical men, or in the United States, where the number it seems is close upon 100,000. The French practitioner is, therefore, much better off than his confrère in England or the United States and he has less right to complain.

SOCIETY PROCEEDINGS.

AMERICAN MEDICAL ASSOCIATION.

Fifty-first Annual Meeting, Held at Atlantic City, N. J., June 5-8, 1900.

SECTION ON PRACTICE OF MEDICINE.

(Continued from page 934.)

THIRD DAY—JUNE 7TH.

Pathology of Rheumatism.—Dr. Riesmann of Philadelphia said that the nervous explanation of rheumatism, advanced originally by the elder J. K. Mitchell and adopted even by Charcot and later by Friedlander who placed the primary nervous lesion in the medulla, can no longer be thought at all probable. The diathesis theory,

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especially that of the existence of an acidemia, is also improbable. Haig has recently called attention to this theory anew and put forward uric acid as the underlying cause. The presence of an increase of uric acid may, however, be an effect not a cause of rheumatism. As to lactic acid it seems to be proved that there is more lactic acid present in the blood of rheumatic patients. But this also may be an effect rather than a cause. The infectious origin of rheumatism is now admitted perfectly on all sides. The evidence for this origin is not direct nor *prima facie*. No specific micro-organism for the disease can be said to have been demonstrated as yet. This is, however, also true of syphilis, scarlet fever, chickenpox and smallpox, the infectious nature of which there is no doubt. It has been argued that the noncontagiousness of rheumatism and the fact that one attack does not protect against succeeding attacks are presumptive evidence that it is not infectious. Wagner of Leipsic, however, believes that he has noted the occurrence of contagion in rheumatism. It is possible that a short period of immunity from the disease occurs after an attack is over, but, as in diphtheria, this does not last long. The precedent chill which so frequently occurs and the occasional occurrence of hyperpyrexia point to the infectious nature of the disease. Rheumatism has been known to occur in epidemics. A number of house-epidemics have occurred, as in croupous pneumonia, that is, the disease has spread from person to person living in the same house.

Variations in Virulence.—Rheumatism varies very much in the number and severity of the cases which occur according to the season of the year. Carefully-collected statistics seem to show that it increases with the diminution of the rainfall and decreases when the precipitation is more abundant. This is opposed to the tradition which makes rheumatism occur especially in damp weather. The complications that occur in rheumatism, endocarditis, pericarditis, meningitis, venous thrombosis, are eminently characteristic of an infectious disease. The port of entry of the infectious material has been pointed out. Heberden first suggested that the throat was the portal of invasion. Angina has been noted in about 70 per cent. of all rheumatism cases. Otitis media has certainly been the primary focus of infection in a certain number of cases. Attacks of rheumatism have been noted to occur immediately after operations on the nose, after vaccination and after operations for fistula. It is probable also that in a certain number of cases the intestine is the port of entry. Cases of rheumatism are not pyemia, or, if so, they are very mild. The endocarditis certainly seems to proceed from a bacterial agency. It has been noted in two cases that pregnant women suffering from rheumatism have given birth to children suffering from the disease.

Kind of Bacteria.—Maclagen says that the causative agent for rheumatism is probably a miasm, that is, an agent like that which produces malaria. The analogy between rheumatism and malaria is not, however, very striking. The joint-fluid of rheumatism is as a rule sterile. Where micro-organisms have been demonstrated in it, it is hard to get away from the idea that they were due to accidental contamination. Singer made a series of examinations of the urine of patients suffering from rheumatism, and finding a number of different kinds of micro-organisms concluded that it was a modified pyemia. Chvostek repeated Singer's observation, but did not confirm his results. It is probable that polyarthritis rheumatica has not a single cause, but is due to a series of micro-organisms.

Rheumatism as an Infection.—Dr. J. J. Walsh of New York said that fifteen years ago Eichhorst in his "Handbook of Practical Medicine" transferred rheumatism from among the constitutional diseases to the class of infectious diseases. At the Charité Hospital in Berlin rheumatism finds a place in Professor Koch's department, that of infectious diseases. In the other pavilions around it are tuberculosis, scarlet fever, measles, leprosy and smallpox. The sentiment that the disease is an infectious one has been growing for a long time. Rheumatism has all the hall-marks of an infection. The prodromal symptoms, the fever, the fact that it is a self-limited disease, as was first pointed out by Austin Flint, the occurrence of complications all over the body and of hyperpyrexia, all point to an infectious disease. In autopsies made on patients who died during the acute stage cloudy swelling of the heart and of the liver and kidneys and enlargement of the spleen have been found. No definite bacterial cause can be said to have been demonstrated with certainty as yet. A form of diplococcus, has, however, been found in Germany by several observers and also by French investigators. It is probable that the ordinary form of the disease is due to this diplococcus. Anomalous cases are due to other micro-organisms and to secondary infections. Some of the rapidly fatal cases are probably due to the anaerobic bacillus which was isolated by Achalme from several fatal cases.

Treatment of Rheumatism.—For a long time the alkali treatment enjoyed a great reputation. The introduction of the salicylate has, however, pushed the alkali treatment into the background. It is the custom to say that the salicylates shorten the course of the disease, besides relieving the pain and the fever, and that they prevent to a certain extent at least the occurrence of heart-complications. Careful statistics collected at the city hospital in Berlin, in which, during alternate periods, salicylic acid and so-called indifferent treatment, that is, by means of iodides and so forth, were employed, show that this claim is not substantiated. The pain and fever are relieved somewhat sooner. The course of the disease, however, is not shortened. The heart-complications are a little more frequent and the stay in the hospital a little longer under salicylate treatment than under different treatment. The

salicylates only act as an antipyretic analgesic. Any of the other coal-tar products are just as efficient. Leyden in Berlin now uses antipyrin instead of the salicylates. Gerhardt uses phenacetin. These relieve the pain and the fever and it is claimed lessen the tendency to heart-complications. As a matter of fact, it is doubtful if the antipyretics have really not done harm in the end. They have given relief to the patient and so have enabled him to get up much sooner than he would under other methods of treatment. The only thing of any importance in rheumatism is the heart-complications. The mortality from the disease is practically nil—less than one-tenth of one per cent. For the avoidance of heart-complications, and especially to make their effect as trifling as possible, rest is absolutely necessary. Even in the healthy the heart beats ten times more per minute in the standing than in the reclining position. When fever is present it beats 20 or 30 times more per minute. This extra work at a moment when a poison that is especially liable to act upon the heart is present is the occasion for the development of severe heart-complications.

Rheumatic Endocarditis of the Essence of Rheumatism.—Although called such, rheumatic endocarditis is not a complication but just as essential a part of the disease as the joint-affections. The endocardial process begins on the edges of the valves where they come in contact. The endoarthritic process begins at the points of contact in the joints. We can not hope, as a rule, to prevent the spread of rheumatism from one joint to another. Neither can we keep it from affecting in most cases the joints, so to speak, of the heart. So-called heart-complications occur in from 50 to 75 per cent. of all cases of rheumatism. In patients under fifteen years of age the heart is affected in from 80 to 90 per cent. of the cases. Not infrequently the endocarditis is the only lesion of rheumatism present. It runs its course without affecting any of the joints, but is just as truly rheumatism as if all the joints were affected. The one hope in rheumatism is to lessen the work of the heart, not only during the acute course of the disease, but more particularly afterward when the inflammatory exudate on the valves is in a plastic condition, and may be reabsorbed under the influence of the iodides. The treatment for rheumatism, then, is not the antipyretics, the salicylates, antipyrin, etc., except in as far as these are necessary to relieve symptoms. The iodides and rest with proper diet are the most hopeful remedies we have.

Chorea and Rheumatism.—Dr. Charles W. Burr of Philadelphia said that in chorea there is frequently a history of precedent rheumatic fever, especially a story of pain, rheumatic in character. It is well known too, that children who have St. Vitus' dance are more liable later in life to attacks of rheumatism. At autopsies made on children suffering from chorea the one lesion that is found in practically all the cases is valvular heart-disease. In nearly all of the cases collected by Dr. Osler this was true. Dr. Burr, himself, has seen the autopsies of three cases in which valvular endocarditis was present. Rheumatic sore throat not infrequently precedes the development of St. Vitus' dance. The connection, then, between these two diseases seems clear. Yet clinically it is hard to reconcile the manifestations of St. Vitus' dance with rheumatism. As we see them, the patients are often strong, well-built children, who have suffered from a fright or some severe emotion, or who from overwork or overstudy (especially overdevotion to piano practice in young girls), develop the choreic movements which characterize the disease. This certainly does not look like an acute infection and has no similarity with acute rheumatism. The connection between the two diseases has become a tradition in medicine, however. Recent French observers have claimed the discovery of a microbe in the blood of patients suffering from St. Vitus' dance which when injected into animals produced choreic movements. The observations are, however, too few to justify any conclusions in the matter, and as St. Vitus' dance looks entirely unlike an acute infection the question remains an open one. Further study will be well repaid if it shows us the reason for the coincidence of the two diseases.

Heart in Rheumatism.—Dr. Delancey Rochester of Buffalo said that heart-affections occur after rheumatism in 60 per cent. of the cases. The younger the patient the greater the liability to heart-trouble. Sir William Watson saw only two cases of rheumatism in children before puberty that did not develop endocarditis. Endocarditis is as essential to the disease as are the joint-affections. More common even than endocarditis is myocarditis. Some affection of the heart-muscle occurs very early in the disease. The heart-murmur in rheumatism is often due to myocarditis. It can be observed before the time when any mechanical interference with the valves from endocarditis could have occurred. A corresponding murmur is heard in anemic cases. Pericarditis is not so common, but occurs in nearly ten per cent. of the cases and should always be looked for. Murmurs heard at the base of the heart in rheumatism are nearly always due to pericarditis. They may also be heard in the third or fourth interspace along the sternum and may be taken for tricuspid murmurs. Certain observers have noted a separation of the left clavicle from the first rib, because of the bulging pericardium. One of the striking features of rheumatic pericarditis is the frequent development of nervous symptoms. The interference with the blood-supply to the brain is responsible for them. They may be so severe as to arouse a suspicion of meningitis. When delirium occurs in rheumatism, look for pericaditis. Not infrequently the presence of a pulsus paradoxus will call attention to the existence of a pericarditis. The usual physical signs will be found on examination of the chest.

Arthritis Deformans.—Dr. A. O. J. Kelly of Philadelphia said that the name arthritis defor-

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mans is less objectionable than rheumatoid arthritis, for the disease has nothing to do with rheumatism, or than rheumatic gout, for the disease is far from being a hybrid combination of rheumatism and gout. The features of interest in the disease is its pathogenesis. There are not only joint-lesions in the disease but pathologic conditions of the muscles and the vasomotor system. The disease is not due to anemia, nor is it due to uterine reflexes, or to wear and tear of the system, for, although these have been set down as causes, they are not sufficient to explain the origin of the disease. Two theories for its etiology seem worth considering, *viz.*, the neural and the bacterial. Neither one of these is sufficient of itself fully to account for the disease and both are probably concerned in its etiology. There is no doubt that emotion, fatigue, fright, and such conditions, have a causal relation to the disease. It also occurs during the menopause and after frequent pregnancies and prolonged lactation. These point to its neurotic origin. Garrod has collected five hundred cases of the disease and only 89 of them in men. It is evident, then, that the nervous element must be given a place in the ultimate pathogenesis of the disease. Vasomotor and the trophic changes are very noticeable. Ataxic joints represent a very similar condition. The disease has been called a trophoneurosis. Peripheral neuritis has been found in some cases and spinal changes have been noted in a few instances. These substantiate the nervous theory and yet leave the cause of the disease obscure since they do not occur in all cases. In tabes, lateral sclerosis and syringomyelia nervous lesions are invariably present. The reflex action of the uterus in the disease is at least doubtful since the uterus is under the domination of the sympathetic system rather than of the cerebrospinal axis.

Bacteria in the Disease.—A number of bacteria have been found in the disease. Their causative relation is in doubt. The results of inoculation are very indefinite. Chiffard and Raymond describe what they call a slender diplococcus which was found in the disease. This was found not only in the joints, but also in the glands in the neighborhood of affected joints. It is well known that arthritis deformans occurs as a sequel of other infectious diseases. The bacterial influence in the disease seems undoubted. The disease is not a pure trophoneurosis, but an infectious trophoneurosis. It is not a peripheral neuritis, since changes in the peripheral nerves are not constant. The spread of the disease is usually centripetal, but this does not point necessarily to the nervous origin of the disease and, besides, its progress is sometimes irregular and not centripetal. The muscular atrophy that is noted in the disease resembles somewhat that due to joint-lesions, but not entirely. It is not as gradual as atrophy from joint-disuse. There is a mixed cause, a toxic element in conjunction with the nervous basis. The affection of the muscles resembles that caused by the neuritis set up by such toxins as diphtheria or by alcohol. The analogy is certainly sufficient to put beyond all doubt the existence of a bacterial element in the etiology of the disease.

Rheumatism an Infection.—In discussing the papers on rheumatism Dr. Frederick Packard of Philadelphia said that one of the evils of modern medicine is snap diagnosis, words taking the place of ideas. It is easy to say "rheumatism" where pain exists and lo! a diagnosis is made. One of the greatest clinicians in the country is accustomed to say after careful examination of a patient, "Now this is chest; this is abdomen," and will not say more until he has studied the case very seriously. In the old days the word dropsy occupied a place corresponding to rheumatism in our day. It was a convenient word, but expressed absolutely no definite idea. We talk of rheumatic angina, of rheumatic endocarditis, of rheumatic pleuritis, terms that serve only to mask for us the true condition. Like scarlatinal and gonorrheal rheumatism they should be expunged. There seems no doubt now that acute arthritis is an affection due to a specific microorganismal cause. Secondary infections there are and infections that resemble ordinary acute arthritis. When we have said this, however, a number of problems remain to be studied. Why, for instance, are chorea and endocarditis so intimately associated with rheumatism? Why do eczema and rheumatism sometimes seem to be connected? It is clear that more lactic acid is present in the blood during rheumatism than at other times. This seems, however, to be an effect not a cause. Benjamin Ward Richardson's experiments, by which he demonstrated that the injection of lactic acid into animals produces heart-complications and arthritis, are not enough in themselves to demonstrate that lactic acid is the important causal element in rheumatism. The infection in rheumatism usually takes place from the throat.

Dr. Musser said that rheumatism now seems beyond all doubt to be an infection. It is not a single disease, however, but a combination of many types of disease which we are as yet unable to distinguish. It remains for the clinician to point out the differential diagnosis of the various forms of the disease, for this will materially aid in the exact treatment of the condition. The field is a most precious one for ambitious investigators.

Dr. J. M. Anders of Philadelphia said that chorea seems to occur especially in those of the rheumatic disposition. Rheumatism certainly often follows in later life. The endocarditis that is noted so often in chorea is an effect and not a cause of the disease. The murmur that is noted is sometimes functional. Just as the muscles of the limbs refuse to act properly, so the muscles of the heart do not act as usual and murmurs result. At times fever is noted in chorea and then it will not infrequently be found that acute endocarditis may exist as a complication of the disease. This should be looked for carefully, as its

bad effects can to a great extent be avoided by proper treatment.

Osteomyelitis and Rheumatism.—Osteomyelitis is sometimes mistaken for rheumatism. Dr. Anders has recently seen two cases. Osteomyelitis, however, never occurs in a joint, but in a long bone, although it may be in the vicinity of a joint. With care the joint can be moved without producing pain, while this cannot be done if the case is rheumatism. Besides, osteomyelitis occurs, as a rule, in but one place while rheumatism is usually polyarticular. It must be borne in mind, however, that in certain cases of subacute osteomyelitis and these are the ones that are liable to be confounded with rheumatism the foci of suppuration may be multiple.

Dr. Charles G. Stockton of Buffalo said that heredity undoubtedly plays a rôle in the causation of arthritis deformans. It seems old-fashioned to talk about the arthritic diathesis, but in this disease, at least, a truth is expressed by the term that might otherwise be lost sight of. It is probably in the nerves that the heredity basis of the disease is situated. It must not be forgotten that meteorological conditions affect joints. There are old people who are able to foretell the changes in the weather. It is probable that the changes in joints which cause this discomfort are also predisposing conditions for rheumatism.

Dr. Bishop of New York said that, although the infectious nature of rheumatism is becoming more and more clear, we cannot get away entirely from the idea that the cause of the disease is some defect in the chemistry of the body. Rheumatism is certainly a nutritional as well as an infectious disease. Acute articular rheumatism is a specific infectious disease, the predisposition to which is acquired by disturbances of metabolism.

Dr. H. D. Favil of Chicago said that we must wipe off the slate and begin anew our studies of the etiology of rheumatism. The infectious element now seems certain. The diathetic element is losing some of its old potency in the disease, but cannot be neglected entirely.

Dr. Birnie of Maryland said that an important element in rheumatism on which sufficient stress is not usually laid is that it is a self-limited disease. It is probably true, as Dr. Walsh said, that no drug serves to shorten the course of the disease. Rest in bed and careful diet are the important remedies for lessening the number and severity of heart-complications. The iodides, potassium iodide and ferric iodide, used after the acute stage, are very beneficial drugs. The symptoms pains and fever must be relieved, but their relief must not be followed by allowing the patient to be up and around before convalescence is fully established.

Rheumatism Precedes Chorea.—Dr. J. J. Walsh said in closing the discussion that chorea is a nervous disease. Its motor symptoms are due to irritation of the cells of the cortex. This irritation is due to disturbances of the blood-supply. The disturbances of the blood-supply are consequent upon chronic endocarditis. The one lesion that is constantly found at autopsies in cases of chorea is chronic valvular disturbance from endocarditis. After a fright, or a severe emotion, or after overstudy or overwork, this disturbance of the circulation becomes manifest. The chronic endocarditis is due to a precedent attack of rheumatism which ran its course either in infancy and was completely ignored, or a little later in life and was set down as growing pains, or was insidious, as a rheumatic endocarditis without joint-lesions. It is the occurrence of the earlier attack of rheumatism that makes these children liable to rheumatism later in life. Chorea follows, however, not only rheumatism but any infectious disease which affects the heart. Of late years particularly it has been known, although more rarely than rheumatism, to follow measles and scarlet fever and even mumps and chicken-pox.

Dr. Delancey Rochester said that rest is extremely important in rheumatism. The occurrence of endocarditis does not contraindicate the use of the salicylates. Saline cathartics should be used freely and the patient should be wrapped in blankets rather than sheets, and should be made as comfortable as possible for his six to eight weeks of rest in bed.

Malignant Endocarditis.—Dr. N. S. Davis, Jr., of Chicago reported a case in which frequent chills and fever had occurred without any cause being traceable except malignant endocarditis. The patient ultimately recovered. It seems probable that in this case the site of primary infection was in the digestive tract. The patient had suffered for a long time from chronic gastritis. In another case under Dr. Davis' care the primary seat of infection seemed to be a chronic enteritis. Dr. Davis thinks that we cannot draw any hard and fast lines between simple and malignant endocarditis.

Muscular and Valvular Heart-Lesions.—Dr. S. Solis-Cohen of Philadelphia said that in most cases the site and nature of the valve-lesion in heart-disease is much less important than the state of the cardiac muscle. The most important exception to this rule is mitral stenosis with extreme narrowing. Aconite is often a useful drug to reduce the excessive muscular effort in this condition and its employment must not be neglected. In some cases in which none or but very slight valve changes can be demonstrated, there may develop signs of severe cardiac insufficiency due to lesions of the myocardium. The physical signs of myocarditis are inconstant. Where there are no valve-lesions intermittence or irregularity of the pulse and precordial pain in non-neurotic subjects are the symptoms that call attention to the myocarditis. Tinitus, vertigo, dyspnea, visceral congestion and edema may be slight and escape notice. Usually the first sound of the heart is weak and distant and the two sounds become more nearly alike, the second sound being accentuated. Later embryocardia and galop-rhythm may develop. Gout, syphilis, alcohol and

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tobacco, tea and coffee, sexual excesses, mental strain and physical overwork are the chief causes of disease of the myocardium, apart from lesions that are due to acute infections or are secondary to nephritis or valvular disease. Influenza is a frequent cause of myocarditis.

Diagnosis of Myocarditis.—We have not sufficient clinical knowledge as yet of the disease to permit of its assured recognition antemortem. The differential diagnosis between neurasthenia of the heart and disease of the myocardium may be extremely difficult. It is important to avoid error, for the prognosis and treatment of valvular disease depend mainly on the proper estimation of the condition of the heart-muscles. Failure to recognize the presence of myocarditis may be very serious if a heart should be judged to be normal because of the absence of murmurs and the patient be advised accordingly. If the presence of myocarditis is recognized the treatment consists of judicious regulation of the diet and exercise, the avoidance of the exciting causes mentioned and of excesses of every kind, with the regulation of the habits of life, so as to secure a good functional condition of the skin and other eliminative organs. Warm saline or carbonated baths and in most cases gentle massage, with resistance exercise carefully adapted to the individual cases, are of great benefit. Nitroglycerin is the most useful single agent of the materia medica. Strychnine, digitalis cactus, strophantus and spartein are useful in special cases. Arsenic, gold and sodium chloride and iron are the most suitable tonics. Potassium iodide and mercurials have special indication in many cases. Venesection should be done promptly and in sufficient amount if sudden and urgent symptoms of cardiac failure develop.

Clinical Myocarditis.—Dr. Bishop of New York said that myocarditis is much more frequent than has been thought. Its recognition is extremely important because on it depends the prognosis of many cases. The myocardium and its affections are even more important than the pericardium and the diseases to which they are liable. The most important causes of myocarditis are rheumatism, syphilis, gout, alcoholism and the other intoxications, and arterial diseases. Arteriosclerosis is an especially important etiological element in the production of myocarditis. Dr. Bishop then discussed a series of cases of myocarditis in which the irregularity of the cardiac rhythm was the most striking symptom of the heart-affection. In the treatment of these cases he has found the Schott method of carbonated baths, with resisted movements, especially useful.

Rational Prognosis in Heart-Affections.—Dr. J. J. Morrissey of New York said that in making the prognosis of heart-affections it is important not only to estimate the nature and extent of the changes which have occurred in the heart itself, but also the condition of other important organs of the body far removed from the thoracic cavity, but dependent on the proper continuance of the circulation for their perfect functioning. The history of cases is extremely important because it enables us to judge of the progressive character of the affection and how rapidly degenerative changes take place in the heart itself and in the organism. The mere finding of a heart-murmur is not sufficient to justify a gloomy prognosis. The condition of the cardiac muscle, the length of time the lesion has existed, and the presence of dilatation, or hypertrophy, or both, are important factors in modifying our prognosis. The occupation and temperament of the patient are very essential elements to be considered for making our prognosis. The diagnosis should be complete, the prognosis tentative. As Professor Allbut says, "Give your prognosis on the best suppositions; treat your patient on the worst."

Murmurs and Prognosis.—Murmurs do not invariably mean endocarditis. The prognosis based simply on a murmur is utterly unjustifiable. It has been well said that, with an apex beat in the normal situation and regular in rhythm, the auscultatory phenomena may be practicalyl disregarded. It must not be forgotten, especially, that a presystolic murmur does not always indicate the most serious of all lesions, namely, a mitral stenosis. A so-called musical apex murmur has no special significance in prognosis, as it indicates nothing more than the passage of a stream of blood through a small aperture in the segment of the valve. As regards longevity, aortic stenosis is a favorable lesion and Dr. Morrissey differs from the authors who state that it appears for the most part after middle life. It is often found during that period when a man should be at the highest point of physical capacity—between thirty and forty. It is frequently present, it is true, as a part of general decay, as a consequence of atheromatous changes in the vascular system. But it is more frequently present than has been hitherto suspected, without necessarily involving such pathological manifestations. It is important not to alarm a young man by the diagnosis heart-disease, because some hypertrophy of the heart is discovered. These athletic hearts may occur in the midst of perfect health and yet life be embittered by the suspicion of heart-disease aroused by the injudiciousness of an attending physician. Patients should be told to return for further examination when the mind cannot be thoroughly made up as to what condition is present. An interval of a very short time may cause the disappearance of apparently significant symptoms. There are more snap diagnoses of heart-disease than of any other condition, and more of them are wrong.

Statistics of Heart-Disease.—Dr. Morrissey has had under his care 255 cases of cardiac disease. Of these 69 suffered from aortic disease, 18 were cases of pure aortic insufficiency, six of aortic stenosis, and 45 of aortic insufficiency and stenosis; 185 suffered from mitral lesions, 95 from mitral insufficiency, 74 from mitral insufficiency and stenosis and 14 from mitral stenosis. In only two cases did there seem to be fatty degeneration

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of the cardiac muscle. Dr. Morrissey is of the opinion that fatty degeneration of the heart is diagnosed much more frequently than there is any justification for in the physical signs or the rational symptoms presented by patients.

Endocarditis and Myocarditis.—In the discussion of heart-diseases Dr. Frank Billings of Chicago said that ulcerative endocarditis is much more frequent than has been thought. When intermittent fever occurs and no malaria can be demonstrated, or remittent fever and typhoid fever and tuberculosis can be excluded, it is always probable that ulcerative endocarditis is present. Myocarditis is also more frequent than has been thought. Its foundations lie in faults of nutrition in the gouty and other diathesis, in imperfect digestion and absorption, and its first symptoms are often an irritability of disposition, the symptoms of indigestion, a lessened amount of urine, an enlarged liver and other symptoms which point to disturbances of the capillary circulation.

Dr. Herrick of Chicago said that for the prognosis of heart-disease the condition of the heart-muscle is more important than the determination of the exact site of the valvular defect. He saw not long ago an old man of sixty-nine who had been told by Skoda of Vienna thirty-seven years before his death that he had heart-disease. By careful living he succeeded in living on absolutely without cardiac symptoms almost to his seventieth year.

Dr. Fussell said that certain symptoms are given too great significance in heart-disease. An increase in the area of heart-dulness, for instance, is only significant if persistent and if compensation fails. An easily-recognizable condition which will often raise suspicion of heart-disease is the existence of a fringe of dilated veins along the costal margins.

Occupation and Tuberculosis.—Dr. Freudenthal of New York read a paper on this subject, which will appear later in the MEDICAL NEWS.

Prebacillary Stage of Consumption.—Dr. J. M. Anders of Philadelphia said that the most important thing in the treatment of pulmonary tuberculosis is an early assured diagnosis. It is possible to recognize the disease with reasonable certainty before tubercle bacilli are demonstrated in the sputum. The Roentgen rays are an important aid to this prebacillary diagnosis. The shadow of beginning consolidation at the apex of a lung is distinctly darker than the surrounding tissue long before the presence of the lesion can be demonstrated by percussion or auscultation. The diaphragm on the side on which the lesion exists can also be seen to make shorter excursions than on the healthy side. The tuberculin test, used with proper precautions, can also be of the greatest service for early diagnosis. A reaction to tuberculin will make an assured diagnosis long before the physical signs are sufficient to justify more than a vague suspicion. The careful history of the case will often lead to a very probable diagnosis of tuberculosis when the physical signs are insufficient to raise more than a suspicion. Antiphthisical treatment is often indicated before tubercle bacilli can be demonstrated in the sputum. It must be remembered that tubercle bacilli may often remain encapsulated in the pulmonary tissue, or at least shut off from any connection with the bronchi, until the disease has made extensive inroads. The modern treatment of consumption can only do good in any case, and, if the patient has been losing weight and a suspicion of tuberculosis exists, the open-air treatment of the disease should be instituted until the patient recovers the weight lost. If tuberculosis were treated always in the preliminary stage, there is comparatively little danger of death from the disease. Suspicion, then, if well grounded, should be enough to cause the physician to insist on the change of life necessary to institute proper hygienic measures.

Rest in Tuberculosis.—Dr. Carroll E. Edson of Denver, Colorado, insisted on the importance of rest in pulmonary consumption. His paper will appear in full in the MEDICAL NEWS.

Serotherapy of Tuberculosis.—Dr. C. P. Ambler of Asheville, N. C., presented the report of 106 cases of pulmonary tuberculosis in all stages treated by antituberculous serum. After a year and a half of observation he is now able to confirm the report read before the Section on the Practice of Medicine at Columbus last year. This year's experience confirms the conclusion that tuberculous patients treated with serum do not relapse as do those treated with creosote and other allied drugs. Cases of tuberculosis recognized early in the course of the disease can be absolutely cured and practically assured against relapse by this treatment. The symptoms of patients in advanced stages of the disease can be relieved better by this method than by any other. The comfort of the patient is especially assured and the course of the disease is rendered slower than by any other treatment.

Nitrogen Injections for Pulmonary Tuberculosis.—Dr. A. F. Lemke of Chicago read a paper on tuberculosis of the lungs treated by compression with nitrogen after the method of Murphy, with some remarks on the *rationale* of the procedure and a record of experiments upon dogs. Dr. Lemke said that compression for pulmonary tuberculosis is suggested by clinical evidence. Stokes says, "In many cases where pulmonary tuberculosis complicated by pneumothorax becomes chronic, we may observe a singular suspension of the usual symptoms of phthisis. The sweats cease, the pulse becomes quiet, the patient may gain flesh and strength to a surprising degree." Jaccoud, Williams, Cornet, Osler, Fowler, Godlee and Paget give confirmatory cases. Pathological evidence in favor of this view is found in the writings of Hughes, Rokitansky, Watson, Späth, Rosenbach and others. Laennec once said, "No consumptive succumbs to a first attack of consumption." Tuberculous lesions always heal by cicatrization. The rational proceeding is to further the natural tendency to cic-

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atrization. The danger from tuberculosis lies in the dissemination of the disease throughout the lungs or the body. The paths of dissemination are first, by continuity and contiguity and, secondly, throught the air-channels, the lymph-vessels and the blood-vessels. Compression favors fibrosis in and about tuberculous areas. It occludes the avenues of dissemination of the virus and by compressing cavities puts them in a favorable mechanical condition for healing. Indirect favorable effects of the compression are, first, rest to the lung as a whole; second, the evacuation of secretions by the pressure exerted; third, the prevention or diminution of absorption of toxic substances; fourth, the prevention of secondary infection, and, fifth, the diminished tendency to hemorrhage.

Observed Effects of Compression.—There is good evidence that it furthers the natural tendency on the part of the tissues to cicatrize. Clinically it is an excellent palliative remedy, for it diminishes cough, expectoration and sweating, lowers fever and causes an almost immediate tendency to gain in weight. There is not any evidence that fresh tubercles can develop in a compressed lung. There is now good clinical and experimental evidence that healthy lung-tissue may be compressed for a year or more and yet retain its capacity for expansion upon the removal of the pressure. Experiments upon dogs were detailed in which the left pleural cavity was injected with nitrogen or normal salt solution every two weeks during a period of eight months. The changes that took place were of not a character to determine permanent effects upon the lung-tissue.

Technic of Nitrogen Injection.—The nitrogen is injected through an ordinary exploring needle inserted in the anterior axillary line, at its intersection with the mammillary line. The average quantity of nitrogen which may be introduced into the pleural cavity without untoward effect is 120 cubic inches. The actual risks of the operation of intrapleural injections of nitrogen are extremely small. Accidents have not been reported since the first report was made. Subcutaneous emphysema has not occurred in any case since the adoption of the intercostal splint.

Uses of Intrapleural Injection.—These may be summed up as follows: (1) They are curative in pulmonary tuberculosis in its incipient stages. (2) They are palliative in cases in which the disease is too extensive to hope for recovery and give a prolonged life for weeks or months in comparative comfort. Besides, they greatly diminish fever and expectoration. (3) One of the most useful purposes of these injections is to check pulmonary hemorrhage; cases have been reported in which intrapleural pressure at once stopped the hemorrhage after all ordinary measures had failed. (4) They compress cavities and so establish mechanical conditions that will permit healing. (5) They serve a useful purpose in compressing the lung just prior to operation in which the pleural cavity is to be freely opened, and they can be used to determine the presence or absence of pleural adhesions, before opening the pleural cavity in order to drain abscesses or bronchiectatic cavities, cysts, etc. These cases in which it has been useful to surgeons are most interesting.

Silver Injections Over Vagi Nerves.—Dr. Thomas J. Mays of Philadelphia made a further report on his method of treating consumption by the injection of silver nitrate along the course of the vagi in the neck. The counterirritation produced stimulates the vagi and, as these nerves carry trophic influences to the lung, the lung conditions are modified, the resistive vitality is increased and the tuberculous process is gradually overcome. The injections are made by lifting up the skin over the vagi and throwing in a quarter of a grain of nitrate of silver. As the injection is painful, a preliminary syringeful of weak cocaine solution should be used. Even before the injections are made, the nerve will sometimes be found to be tender along its course on the affected side. Dr. Mays has now used this method in over a hundred cases and he has obtained with it better results than with any other.

In the discussion Dr. Vaughan of Ann Arbor said that the development of tuberculosis in patients suffering from argyria is not unusual. The use of nitrate of silver, then, does not seem very promising.

Dr. Delancey Rochester said that tuberculosis is often disseminated through tailors. The thread is frequently passed through the mouth and the hands are not kept clean while handling the clothing. Thus, the seeds of the disease are carried into families where it did not exist before. Exercise, he said, is bad for consumptives, not only because of the exhaustion it produces, but also because the deep inspirations necessitated by exertion lead to the carrying of particles of tuberculous material into other and as yet unaffected portions of the lungs.

Dr. S. Solis-Cohen said that a very important aid in the diagnosis of incipient tuberculosis is the daily temperature. Usually it is highest from twelve to two. An inverse temperature-course, that is, with the highest point in the morning, is always suspicious of tuberculosis.

Dr. S. Knopf of New York said that the two secrets in the treatment of consumption are not to treat the disease, but the patient, and, secondly, not to consider that any particular climate is specific, but that the open air will cure any incipient case of tuberculosis. Besides tailors, there are two other classes of workmen who are especially liable to tuberculosis. They are the helpers in laundries who sort the soiled linen and workmen engaged in sorting rags. With regard to the rest-cure in tuberculosis, there is one danger that must be borne in mind, *viz.*, the development of hypostatic congestion if patients are kept continually in one position. Massage is an important remedy in tuberculosis, giving, as it does, exercise without fatigue. Creosote is not followed by any special tendency to relapse. Landouzy controls

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cough by the injection of sterilized water, just under the clavicle. Cough is best controlled by discipline.

FOURTH DAY—JUNE 8TH.

Diagnosis of Diabetes.—Dr. James B. Herrick of Chicago said the diagnosis of diabetes ultimately depends in all cases upon the detection of sugar in the urine. As the urine of all patients cannot be examined, it is important to recognize the symptoms that point to the existence of sugar in the urine and so awaken the doctor's suspicion. A number of nervous symptoms occur very early in the disease. Sexual impotence is often the first sign of the existence of diabetes. Although Naunyn thought differently, psychic illusions are quite common in Dr. Herrick's experience. Irritability and a change of disposition are often the first sign. There are three causes why diabetes is missed by the practitioner, *viz.*: (1) The urine is not examined; (2) sugar is not present, or (3) it is present only intermittently. Other features of the disease may overshadow the fundamental affection. Albuminous urine and the occurrence of casts may lead to the diagnosis nephritis when the true condition is really diabetes. Casts are sometimes a warning of the approach of diabetic coma. Sugar may occur even in urine of low specific gravity. This is true (*a*) if patients are very weak; (*b*) if interstitial nephritis is present, and (*c*) if large quantities of liquid have been taken shortly before the examination is made. The urine of every case of pulmonary tuberculosis and of obscure coma should be examined carefully. For purposes of treatment and prognosis the character of the diabetes should be recognized. The diet of diabetics should never be too strict, otherwise serious complications may be precipitated. The presence of obesity usually adds to the favorableness of the prognosis. The condition of the pancreas and the liver should be made out as far as possible in order to give more certainty to the prognosis.

Increase of Diabetes in New York.—Dr. Heinrich Stern of New York discussed the mortality from diabetes mellitus in New York since 1894. During these six years there have been 1867 deaths from the disease. Of these 931 almost exactly half have been in women. Before this the disease was considered to be from two to two and a half times as frequent in men as in women. The present statistics are probably an indication that, in the struggle for existence, woman is no longer exempt from the strenuous life. While the total death-rate in New York has declined from 25 per 1000 to about 18 per 1000, the death-rate from diabetes has increased from $2^1/_2$ per cent. in 1894 to over 5 per cent. in 1899. The number of deaths are approximately the same throughout the different parts of the year. Five per cent. of the deaths occurred in persons over 45 years of age. The occurrence of nervous manifestations about the time of the menopause makes the death-rate from diabetes in women very high during the years between forty-four to forty-eight. In the cases under twenty the number was equally distributed between males and females, which seems to show that the same conditions of life prevail for both sexes at this time. During eleven years in New York only fifteen deaths from diabetes were reported in the colored race. This means, perhaps, no more than that the disease fails of diagnosis among these people, who are notoriously known to be satisfied with a home-made diagnosis and many of whom are afraid of hospitals. The increase in the death-rate from diabetes in general does not, perhaps, mean more than a better recognition of the disease than previously.

Skin Symptoms of Diabetes.—Dr. Milton D. Hartzell of Philadelphia said that certain cutaneous symptoms are so commonly associated with diabetes that they had been called by Fournier diabetic skin-diseases. Pruritus is the most common of these. It occurs especially about the genitalia and down the thighs and may give rise to the most intense itching. Scratching may lead to the development of eczema. There is nothing peculiar about the pruritus and eczema except their location. Preputial inflammation is very common during diabetes and may lead to thickening of the foreskin and the occurrence of fissures. Balanoposthitis occurs as a consequence of retention of urine behind the foreskin and the fact that the sugary urine forms such an excellent culture medium for the micro-organisms. Pustular acne is a very common condition in advanced diabetes. Crops of furuncles and of carbuncles are frequent. It is estimated that more than one-third of the cases of furunculosis and multiple carbuncle are due to diabetes. Papillomatosis diabetica has been noted in at least one case as a fungating, capillary mass on the back of the hand. Moist or dry gangrene of the skin is a not infrequent complication of diabetes. It may occur in a single or in multiple patches. At times it is symmetrical and may be mistaken for Reynaud's disease. It can be differentiated from this, however, by the absence of the preliminary disturbances of the vasomotor mechanism which are so characteristic of Reynaud's disease. Kaposi has reported certain cases of bullous gangrene which began as dark-colored vesicles and then spread. Xanthoma diabetica deserves the name because it occurs nearly always in connection with glycosuria. It consists of patches of red flat papules on the knees, elbows and buttocks. Dermatitis herpetiformis has been noted occasionally in connection with diabetes. The deposit of pigment in the skin in certain cases of the disease has given rise to the term bronze diabetes. This type of diabetes has been studied especially by French authorities. The treatment of the skin-complications of diabetes should be preventive. It consists in the most scrupulous cleanliness. Eczema and other skin-diseases will frequently resist all local treatment unless the diabetic condition is improved by proper treatment, hygienic and dietetic.

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Early Diagnosis.—Dr. S. Solis-Cohen in the discussion said it should be borne in mind that glycosuria is not diabetes. Glycosuria may be noticed particularly after certain of the infectious fevers. After influenza it is not infrequent. Patients must not be disturbed by the announcement of the existence of diabetes until the physician has assured himself that the condition is persistent. It is important to remember that albuminuria may coexist with glycosuria and the finding of albumin in the urine should not keep the physician from looking for sugar. The only way to avoid missing cases of diabetes is to examine the urine of every patient even although the complaint be nothing more than an ingrowing toe-nail. This is evidently not feasible. Hence, the suspicious symptoms should be borne in mind. The nervous symptoms should especially call attention to the urine; and of these bilateral sciatica is one of the most characteristic.

Increase of Diabetes.—Dr. J. J. Walsh of New York called attention to the fact that according to the mortality statistics diabetes is very much more frequent in this country than it was ten years ago. Insurance companies are now refusing three risks for diabetes to one refused ten years ago. Dr. Stern has pointed out that diabetes in New York is nearly three times as frequent as it was only six years ago, although the general mortality of the city has decreased by one-fourth during the same period. This increase of diabetes is probably apparent and not real and is due to the fact that the disease is more often recognized than it used to be. Two fatal diseases especially are mistaken for diabetes—pulmonary consumption and chronic nephritis. The sugar in the blood of diabetics makes it an excellent culture medium for the tubercle bacillus. Practically all the slow-running cases of diabetes die of pulmonary tuberculosis. To permit a diabetic patient to associate with those affected with tuberculosis is almost inevitably fatal. When diabetics become affected with tuberculosis the loss in weight and other symptoms of the diabetes are attributed to their tuberculosis and the underlying disease remains unrecognized. Almost the same thing happens with regard to nephritis. Some irritability of disposition is perhaps the first symptom that calls attention to the condition of their urine. An examination is made, albumin is found and casts, both these abnormal constituents being frequently present in diabetic urine; sugar is not looked for and the case is considered to be simply one of advanced nephritis.

Dr. Morrissey of New York called attention to the fact that glycosuria frequently exists in tuberculosis. In a hundred cases carefully examined for this purpose, he found at least traces of sugar in the urine of over 30 per cent.

Dr. Roussel of New York called attention to the fact that sugar may occur in the urine in cases of myxedema. In an undeveloped case of myxedema recently under his care the patient was treated for a long while for diabetes, but without marked improvement. The sugar disappeared as soon as thyroid was administered and the symptoms of myxedema were gotten under control. The sugar remained absent as long as the thyroid treatment was kept up, but returned when the patient after a year, under the impression that her cure was complete, stopped thyroid medication for a time. In these incomplete cases of myxedema both sugar and albumin occur in the urine and they may be mistaken for either diabetes or nephritis.

Dr. Osborne of New Haven said that in only about fifty per cent. of the cases of diabetes is there found on postmortem a lesion of the pancreas. The remaining 50 per cent. are due to lesions of other organs than the pancreas. A number of patients who have Graves' disease suffer from glycosuria. Most of the patients with severe Graves' disease die either of diabetes or tuberculosis. Acromegaly is often complicated by diabetes. In all of these obscure conditions of glands having internal secretions, careful examinations of the urine should be made in order to detect the presence of sugar. In pancreatic diabetes regulation of the diet does good. In diabetes from other causes even a strict diet has not much effect.

Distribution of Diabetes.—Dr. Herrick of Chicago said that it is computed from statistics in Berlin that there is more diabetes in the upper 10,000 than in the lower 100,000. Perhaps this infrequency of diabetes among the poor accounts for its rare occurrence among the negroes in this country. Dr. Herrick has seen diabetes in a negro but once. Obesity makes the prognosis of diabetes much better. What has been called diabetogenous obesity readily yields to dietetic treatment. The vigorous enforcement of an absolutely proteid diet is sure to do harm rather than good, besides inflicting a great deal of discomfort on the patient.

THERAPEUTIC HINTS.

Treatment of Hemorrhoids in Women.—For hemorrhoids when they are flabby and indolent, or dry and warty, no treatment is instituted. If they are swollen when examined, the pain can be mitigated and the suffering and itching relieved by rest, a frugal diet, saline purgatives and cold injections, which lessen the constipation. When there is a discharge apply, with the patient in bed, compresses of bran and water, or of a solution of zinc sulphate, of glycerin and tannic acid, or perhaps some ointment of calomel. If the external swellings are inflamed, stay in bed and apply compresses of cold water or an ice-bag. When they discharge and ulcerate and restrict the passage of matters, and the sitting position or walking is painful, the thermocautery heated to a cherry-red gives relief. But care must be taken not to burn all the projections of the anal region for fear lest a slower contraction result. Finally, combat the constipation by the use of ovules of glycerin.—Lutand (*Bul. gen. de Therapeutique,* March 8, 1900).

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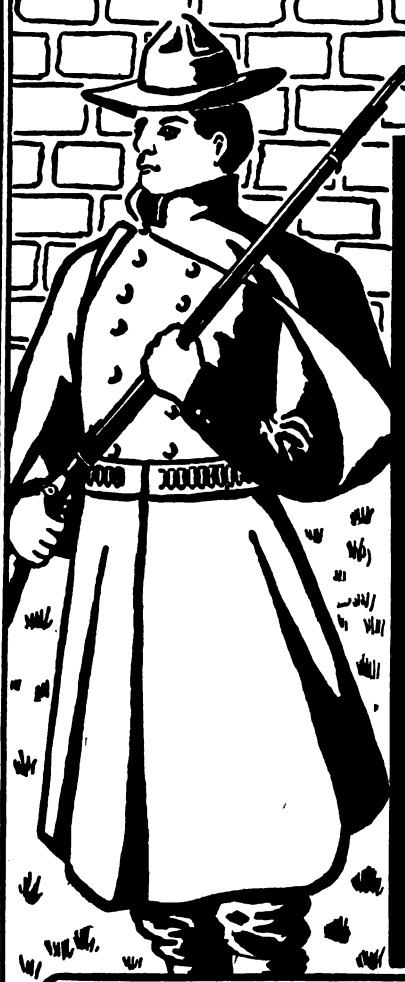

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Advantages of Slip Socket in Artificial Legs. Editorially (*The North-western Lancet*) attention is directed to the unequalled merits of the artificial limbs made by the Winkley Artificial Limb Co. The distinctive feature of these limbs is the device known as the slip socket which prevents irritation in walking, facilitates the fitting of a short stump and makes it possible to adjust the artificial limb easily to the changes incidental to growth of the wearer. The surgeon in charge of this line of exhibits at the Chicago World's Fair described the socket as truly admirable and in a personal letter to the maker spoke of the advantages of the device in the strongest possible language. Physician's who have any experience with this socket desire no other artificial limbs.

Treatment of Urinary Affections. Miley (*The Western Medical Journal*) reports that he has treated several hundred cases of genito-urinary disease with sanmetto and considers the remedy almost specific especially in the chronic forms. In the troublesome prostatitis of old men, also in functional weakness of the generative organs, he finds wonderful results follow a course of treatment with sanmetto. It is applicable to nearly all diseases, acute or chronic, of the genito-urinary tract, but yields the best results in subacute and chronic affections.

Systematic Mouth Disinfection as a Prophylatic Measure. In an able editorial (*The Dietetic and Hygienic Gazette, March, 1899*) this important subject is treated in all its phases. It is claimed that if competent persons regularly examined the mouths of all school children, treated or removed all carious or diseased teeth and enforced instructions with regard to the systematic and effective employment of proper antiseptic solutions and tooth brushes the death rate in this country would be materially reduced. Nor would the benefits derived from the employment of such precautionary measures stop here. A stronger and more vigorous race would be another consequence. The mouth is naturally an incubator supplying all the conditions needful for the proliferation of disease producing germs. Such germs easily find access with many others, of a harmless character, and are always a source of danger. Nearly all effective germicides are themselves poisons and consequently are not suited for disinfecting the mouth. But of all recognized antiseptics none is more powerful than hydrogen dioxide and this is at the same time entirely harmless. Its action depends upon the presence of oxygen, the most common element in the body. When applied oxygen, is set free and this at once seeks union with that for which it has the greatest affinity, in the process known as oxidation. In this process all albuminous matter, bacteria and their food products are destroyed. Oakland hydrogen dioxide is chemically pure and therefore the safest and best for mouth disinfection.

Glycero-Phosphates. Quackenbos (*Report, New Hampshire State Medical Society*) observes that chemistry has demonstrated the presence of a phosphorus-bearing substance in the nerve cells. This substance is tehnically known as *lecithin*, and is a constituent of every healthy cell, being especially abundant in the cells of nerve structures proper and the brain. Chemically, this substance is a glycero-phosphate of neurin, neurin being the albuminous basis of all nerve tissue. Life depends on the presence of healthy glycero-phosphate. Neurasthenia is due to a diminished amount or poor quality of this substance. Upon these well established facts is based the treatment of neurasthenia and allied conditions by the systematic administration of glycero-phosphate of lime. In therapeutics this salt is found rapidly to restore the phosphorus eliminated in excess through the urine, and to diminish the excretions of incompletely oxidized phosphorus which is always indicative of pathologic waste. A course of treatment with glycero-phosphate of lime supplies to the system phosphorus in a form ready for absorption and assimilation, thus differing from mineral phosphorus, syrup of hypophosphites and phosphates generally which are not assimilable. It stimulates nutrition, promotes metabolism and facilitates normal tissue metamorphosis. The dose ranges from three to four and one-half grains and should be repeated two to three times a day.

Uric Acid in Disease and Therapeutics. Powell (*The North American Journal of Diagnosis and Practice, March, 1899*) observes that the intimate relationship between psoriasis and gouty affections is attested to by the efficacy of remedies directed to the rectification of the uric acid diathesis. He believes that the latter condition is much more frequently the cause of disease than is recognized or realized. It shows itself often merely in patches of psoriasis along the creases at the side of the nose, and such cases are generally difficult to cure simply because the underlying and obscure diathesis evades recognition. The writer generally resorts to the early use of thialion, a laxative salt of lithia, in all these cases. Rheumatic and gouty affections, lithemia, corpulency, and other allied affections yield more promptly to this remedy than to any other. The medicament is a crystalline salt which dissolves freely only in hot water and therefore should be administered in copious draughts of hot water. The dose is one teaspoonful taken about half hour before each daily meal.

Treatment of Acute Gonorrhea. Fraley (*The Therapeutic Gazette, November, 1899*) details successful treatment of gonorrhea with mercurol as follows: At first one-half per cent. of mercurol in a normal salt solution is employed as an injection. This is equivalent to a 1: 2000 solution of corrosive sublimate, yet causes no inflammatory reaction, this being a capital fact in mercurol treatment. Later the strength of the solution is doubled and continued while local treatment is needed. This strength is always sufficient and is well borne. The patients are instructed to inject every two hours and to hold the solution at least two minutes. Pronounced effect upon the discharge and urinary symptoms follows within forty-eight hours.

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